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TABLE OF CONTENTS.

PAGE.

Editorial:
Is This the Limit of Production? 325
A Monopoly not in Sight 326

Letter from Frank da Costa 327

Obituary 328
[With portraits of W. G. Winans and George Langdon.]

A Visit to Rubber Plantations in Nicaragua *The Editor* 329
[" Cukra," " Canada," " Manhattan," and other Plantations near Bluefields. Sim Iron and His Work. Gordon Waldron's Tapping Experience.]
[With 15 Illustrations.]

The "Guayule" Rubber Plant—I *Rudolf Endlich, Ph. D.* 335
[Botanical and Popular Description. Geographical Distribution of the Plant.]
[With 1 Illustration.]

Sundry Crude Rubber Interests 337
[A French Rubber Association. A German Plan for Buying Rubber. A Falling Off in Kasai Rubber.]
" Sirocco " Driers for Crude Rubber 333
[With 1 Illustration.]
Rubber From the Isle of Pines 342

The India-Rubber Trade in Great Britain. *Our Regular Correspondent* 339
[Official Specifications Proofing Trade New Uses for Waste Rubber. Michelin Tires. Tire Repair Outfits Bicycle Boom. Golf Balls. Insurance of Rubber Freights. Electrical Matters.]

The Latest Waterproof Automobile Apparel *Helen L. Stout* 341
[With 8 Illustrations.]

Brazil's Export of Rubber For Four Years 343

Recent Rubber Patents 344
[United States. Great Britain. Germany. France.]
[With 3 Illustrations.]

News of the American Rubber Trade 347

New Goods and Specialties in Rubber 353
[Bailey's " Won't Slip " Tire Band. Winter's Pneumatic Gun Recoil Pad Goodrich Clincher Tire Tools. " Noair " Non Leakable Stoppers. " P. and W." Rubber Preservative.]
[With 9 Illustrations.]

Miscellaneous:
New Trade Publications 326
Wireless Telegraph on the Amazon 327
Increase in Profits on Congo Rubber 327
The Rubber Shoes Worn in China 328
One Pound of Colorado Rubber 334
One Russian " Constitution " 334
India-rubber Goods in Commerce 334
Rubber Cement Cans 346
[With 2 Illustrations.]
High Valuations of Mexican Rubber *Lewis & Peat* 354
Some Wants of the Trade 354
The Editor's Book Table 354
State of the Weather in Ceara 354
Affairs of the Ubero Companies 355
Rubber Interests in Europe 355

Review of the Crude Rubber Market 356

IS THIS THE LIMIT OF PRODUCTION?

DURING 1904 the prices obtained for Pará rubber in all the consuming markets not only averaged higher than for any previous twelvemonth, but the range of high prices was persistent, with an almost unbroken advance from January to December. Nor was this situation any just cause for surprise: it had been pointed to by the development of market conditions for months preceding. Moreover, every reason existed for the expectation of still higher prices during the current year, and such prices, as a matter of fact, have prevailed and now prevail. It may be added that those persons, no matter where situated, whose capital supplies the facilities for the marketing of Pará rubber, are never long blind to any conditions of the market for their commodity. It would seem logical, therefore, that the price conditions here outlined should have tended to an increased production of Pará rubber, as compared with previous periods when the proceeds obtainable were only one-half or three-quarters as much as the market quotations during 1904.

Originally all the rubber of the character now described by the term " Pará " was derived from Brazil—at first from the lower reaches of the river Amazon, tributary to the trade of the port of Pará, and extending gradually up to and beyond Manáos, and including all the territory in Brazil drained not only by the Amazon proper, but by its thousands of miles of tributaries. So long as Brazil contributed an annual increase of rubber supplies, little heed was given to any suggestion that a limit of production might ultimately be reached. But certain figures on another page of this Journal, supplied from a Brazilian official source, compel attention to the thought that if such limit has not been reached already, it may be within the early possibilities.

To get down at once to the official figures, the exports of Pará rubber of Brazilian production (including Caucho) during the last four calendar years have been as follows;

	1901.	1902.	1903.	1904.
Tons	29,373	27,474	29,319	28,792

Is it reasonable to suppose, had the natural supply been unlimited, and the means for marketing rubber likewise capable of constant expansion, that the high price level of 1904 would not have tended to a production as great, at least, as in any former year? It will be noted that the above figures are referred to as embracing the grade of rubber designated as Caucho, which is not " Pará," and while the Brazilian official reports are not informing on this point, THE INDIA RUBBER WORLD is convinced that the Brazilian production of Caucho during the past four years has become larger rather than smaller.

If one more comparison may be allowed, we may point out that all the Brazilian exports covered by the above figures were not made through Amazon ports. In other words, there has been an effort during recent years to develop a trade in " Pará " rubber in regions south of the Amazon whose natural outlet is through other ports than Manáos and Pará. But the official returns do not lend hope that the supply of " Pará " rubber is thus to be main-

tained, not to say enlarged. The following figures tell the story:

	1901.	1902.	1903.	1904.
Amazon ports.....*tons*	29,161	27,117	29,059	28,505
Southern ports.....	212	357	260	287
Total.....*tons*	29,373	27,474	29,319	28,792

Here is not only a reduced total production of "Pará" rubber from Brazil, in spite of advancing prices, but the production of the more southerly districts, from which much at one time was hoped, has declined from the largest figures in the past.

Is there needed a plainer argument for the cultivation of rubber, now that the practicability of cultivation has been demonstrated so amply?

A MONOPOLY NOT IN SIGHT.

SINCE the great rubber merger that brought the Rubber Goods Manufacturing Co. into the United States Rubber Co., the trade naturally has been on the *qui vive* for further absorption. And as people usually see or think they see just what they are looking for, the air has been full of rumors. Were all of them built on foundations of fact there would be very little in the trade but THE INDIA RUBBER WORLD that would not be under cover.

That certain of the larger manufacturers not in the United States company have been approached with invitations to come in cannot be denied. Whether those who broached the subject represented the company or were sent by minor syndicates that were looking for a good commission is not so apparant.

The fact of such a large amalgamation as that just mentioned necessarily stirs the trade, but were a number of the largest of the outsiders to be absorbed there is no reason to think that it would mean either the absorption or the obliteration of any or all of the remainder. Were it possible to absolutely control the supply of crude rubber the task would be an easy one. But at the present time no such plan is deemed either feasible or possible.

To begin with, the United States, while a most important factor in the market, is not yet the "whole thing." According to reliable figures we consume about 45 per cent. of the year's production. But our money is no more potent than that of England, Germany, or France, and it would be a difficult thing indeed to get a working agreement with the powers abroad that would give added power to an American syndicate.

Again if it is simply a question of purchasing the outsiders, the task is an enormous one. The companies embraced in the United States Rubber Co. now manufacture something like 45 to 50 million dollars worth of goods annually. The United States census of 1900 gives the total value of manufactures of "Rubber Belting and Hose," "Rubber Boots and Shoes," "Rubber and Elastic Goods," and "Insulated Wire" as about $122,000,000. To this should be added numerous items not separately listed, as rubber clothing, carriage cloth, cements, rubber dress shields, and so on, altogether amounting probably to several millions in value. Those items, with the great increase in the rubber business that has taken place in the past five years, bring the business well up toward the $200,000,000 mark with three-quarters of it yet to be consolidated.

Or to look at the problem from another viewpoint: There are some sixty independent companies making mechanical rubber goods and tires to-day—doing a business each from $50,000 a year up to many millions. There are forty making a variety of goods many of whom do quite a business in the smaller mechanicals such as mold work, packings, etc. There are eleven independent rubber boot and shoe concerns, doing nearly $20,000,000 of business annually. There are twenty making insulated wire and now turning out nearer 30 than 20 millions worth of goods a year.

It will be seen, therefore, that the problem of absorption is huge, if indeed it is dreamed of by the very able management of the United States Rubber Co.

THE CITY COUNCIL OF BUENA VISTA has taken a step which may prove discouraging to the great rubber interest in Colorado. We refer to the recent ordinance in restraint of spitting in public places. So far as we have been able to learn, the most practicable means of extracting rubber from "rabbit weed" is by chewing the roots—an occupation which may be pursued by any person on the streets, as well as indoors. Such occupation, however, must induce more or less spitting, and if this is to be penalized by heavy fines, thrifty persons who otherwise might be producing rubber constantly will hesitate to chew "rabbit weed" within the limits of Buena Vista.

NEW TRADE PUBLICATIONS.

THE CANADIAN RUBBER CO., OF MONTREAL, LIMITED, have issued some catalogues of their productions that take high rank as trade publications, as regards both subject matter and appearance. Their Catalogue C is devoted to Druggists' Sundries and also sporting goods and stationers' sundries, the whole comprising an exceptionally complete list of goods. This catalogue is tastefully printed in colors, with a cover handsomely embossed in black and red, and appears to be the best and most complete catalogue of its kind yet issued by any Canadian firm. The illustrations, in half tone, serve excellently to give an idea of the goods described in the book, and this we regard to be the first province of pictures in a manufacturer's catalogue. [5½″ × 7⅞″. 86 pages.]

THE VULCANIZED RUBBER CO. (New York) issued under date of May 1, 1905, a new edition of their illustrated price list of Hard Rubber Goods, supplanting that of July 1, 1902. It is not only larger in bulk but includes various new items. Changes are to be noted in the styles of combs, including the addition of the warranted "Ajax" line of unbreakable combs. There are also new items in the list of syringes, and some stationers' goods have been added. This list does not embrace the company's extensive line of electrical supplies. [4⅞″ × 8⅜″. 62 pages.]

THE BOOMER & BOSCHERT PRESS CO. (Syracuse, New York) have issued a new catalogue, in which are illustrated and described a large number of different styles and sizes of hydraulic and other presses of their manufacture. For many years they have devoted special attention to the supplying of presses for rubber work, and they have filled orders probably from every rubber factory of importance in the country, not to mention their trade abroad. [5¼″ × 8¼″. 114 pages.]

A LETTER FROM FRANK DA COSTA.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Being one of the oldest merchants in the rubber trade, having resided in Pará, Brazil, for the last 35 years, always involved in the export of this article, I naturally follow the business with a certain amount of interest and curiosity, which justifies my addressing you these lines, which you may find worth while inserting in your valuable Journal.

For 12 years my firm acted in Pará as agent for Mr. Joseph Banigan, and up to his death I enjoyed all his confidence. Known, as he was, as one of the most aggressive and intelligent manufacturers in the United States, it was a great honor for me. The Hon. E. S. Converse, the large owner of the Boston, Rubber Shoe Co., and one of the most honest men I ever came across, used my services for many years, and if I mention this it is only to give you and your readers an idea that I have had "something to say" in the trade.

One of the recent factors which I have followed with great interest has been the United States Rubber Co.—the Trust, so called. For the first eleven years of its existence the results were not bright, but the last report, published in your June number, shows a more reasonable outturn, to say, having sold about $32,000,000 of manufactured goods, they made $3,500,000 profits—say about 11½ per cent. It is not extraordinary, as I believe that either the Boston Rubber Shoe Co. or the Banigan companies, before joining the consolidation, made much more than that, but it nevertheless indicates the efforts of its management in doing better than heretofore. My sincerest congratulations to them.

The worst part of a corporation such as the one I am referring to is the necessity of publishing their figures every year, and therefore of drawing the attention of the public, when there is any large profit in the business. In a country like yours, where wealth is so immense, there will be no lack of funds to build rubber factories when it is known that they can pay good dividends. A big factory can be erected with a relatively small sum, in a very short time, with modern machinery, and modern facilities *à l' Americaine*, and become a very strong competitor for the corporation, whose factories, although of the best, will not be so modern and economical.

Therefore, as you very wisely say in your June editorial, under the heading "The Latest Rubber Merger," a monopoly is impossible, and the mergers may be as many as you like; new competition will always arise, either with the idea of being also merged at a good profit, or of being able to make goods a little cheaper with the modern facilities, if they cannot merge. A man whom I consider one of the able heads in American commerce, whose vast knowledge and capacity I always admired and admire up to this day, made this mistake of believing in the supreme control of the rubber trade, and was disappointed at the end. Everybody will know that I refer to Mr. Charles R. Flint, and nobody can doubt his competence in the matter.

In resuming I wish to confirm your own impression, with my experience, that a monopoly in the rubber business is quite out of the question.

Some weeks ago I had in my hands a copy of a speech made in Boston at the New England Rubber Club dinner, referring to a probability of insufficient supplies of rubber, or that there would not be enough crude to manufacture enough goods for consumption. Although the speaker was a most competent one, I beg to give my opinion that such a fear is very problematical. Not only the supplies coming from the Amazon increase every year, and probably will continue to, but Ceylon and African crops, in the next 10 or 15 years, will yield such big quantities, that if consumption does not increase in proportion, prices of crude will have to fall considerably.

Your Journal has published many articles about Ceylon and its rubber plantations, and there is no doubt that not only in quantities but in excellent qualities we must count largely upon those grades in a not very distant future. About Africa I beg to quote the following portion of Viscount Mountmorris's speech at the Liverpool Chamber of Commerce on May 29 last. He refers to the plantations of vines:

> The number planted by the state itself and under its direct administration—that is, by natives under their direction—is roughly, I believe 3,000,000 a year. That has been going on for some years now. In addition the *concessionaires* are all replanting. In all something like 60,000,000 rubber producing plants are known to exist and are under the care and supervision of the state authority, and if in ten years these plants produce only a kilo per annum each, they are sufficient at the present moment to supply the whole of the present world's demand for rubber, Of course the mortality amongst them will probably be great, but making due allowance for that, at the same time this continuous replanting of 3,000,000 at least per annum will make good any further loss that may occur.

Therefore, I ask, with this data in hand, can anybody believe in inadequate supplies of crude rubber?

I only wish to bring these two points to your attention, and I end, hoping that about this time next year, if I am alive, I can applaud the further success of the big rubber consolidation, which is so justly expected, not only from the latest merger, but also from the trip of the *Virginia* to the Amazonian waters. Yours very respectfully, FRANK DA COSTA.

Paris, June 20, 1905.

WIRELESS TELEGRAPH ON THE AMAZON.

FROM "A PROVINCIA DO PARA," JUNE 4.

EXCELLENT results have at last been obtained by the experiments with wireless telegraphy, which during the past few months have been made between Breves and the town of Pinheiro. The following message addressed to us was received at the last named station yesterday during the night and transmitted by the national telegraph service, showing the complete success which has now crowned the tenacious efforts of the holders of the franchise for this important improvement. The message reads:

> The S. S. *Tabatinga* passed Breves at 3 P. M., carrying 3009 kilos of India-rubber for Camillo Dias, 1508 for Esteves Bastos, and 4082 for others.—*Wireless.*

DECREASING PROFITS ON CONGO RUBBER.

THE general meeting of ABIR, one of the large *concessionaire* companies trading in rubber on the Congo, was held at Brussels on June 5. The report for the fiscal year 1904 showed profits of 1,201,400.89 [=$231,870.37]. The dividends for the year amount to 400 francs per share (of 500 francs); of this 250 francs have been paid already, and 150 francs are due from July 1. In a single year (1900) the profits were 4,873,356 francs [=$940,557.70]. The company gathered 445 tons of rubber and 9½ tons of ivory in 1904. The report makes favorable mention of the prospects of the rubber plantation in the Malay States in which the company invested two years ago.

DR. ALBERTO PIRELLI, of Pirelli & Co., the rubber manufacturers of Milan, Italy, and the factory superintendent, Signor Emilio Calcagni, were expected to sail from Liverpool for the United States on June 28.

OBITUARY.

COLONEL W. G. WINANS.

WILLIAM G. WINANS, for a number of years identified with the rubber trade in New York, and for the last six years a resident of Jacksonville, Florida, died in that city on March 12, at the age of 62 years. Mr. Winans belonged to a wealthy New York family, his father having been president of the Hamilton Life Insurance Co., and he himself occupied the position of secretary for some 19 years. At the beginning of the civil war he enlisted as private in Company A, Light Guards, Seventy-first regiment American Guards of New York city. He served with distinction and was promoted to adjutant and at the close of the war was colonel of his regiment.

WILLIAM G. WINANS.

His entrance to the rubber trade came about through the death of his brother, whom he succeeded as treasurer of the Peerless Rubber Manufacturing Co. in 1890. Through unfortunate investments he lost not only what property that had been bequeathed to him but was forced to sell his holdings in the Peerless company, and in order to again build up his fortunes went to Florida with the idea of becoming a fruit grower on a large scale. In this he was unsuccessful, and so chagrined was he by his lack of success that he withdrew himself from all intercourse with his friends and even his family heard of him but rarely.

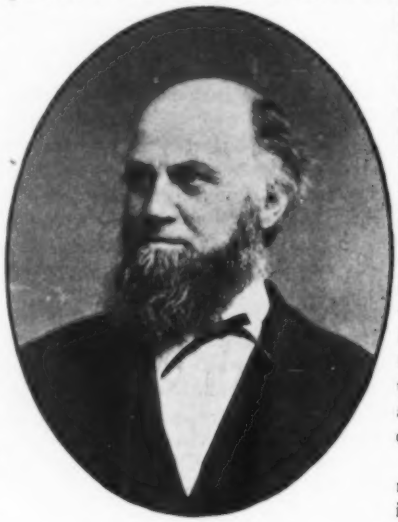
During the days of his prosperity Colonel Winans was a member of the Old Guard, Union League, Colonial, Lotos, and other clubs in New York, and was a prominent Mason. It was through this latter organization that his relatives heard of his death some two months after it occurred, when his body was conveyed to New York, where the funeral services were held, the interment taking place in the Old Collegiate cemetery, in Second street, in the Winans vault, which was constructed nearly 100 years ago.

GEORGE LANGDON.

GEORGE LANGDON died on May 28 at his home in Plymouth, Connecticut, in which town he was born August 4, 1826. His father was Edmund Langdon, who married Emeline, daughter of Timothy Gates, of East Haddam. He was prepared for college in Mr. Hart's school, at Farmington, and was graduated from Yale in the class of 1848. In the same year he engaged in business in Colchester as a merchant, but afterwards he became a resident of New Brunswick, New Jersey, and connected with the India-rubber industry.

He was interested from the beginning in the Novelty Rubber Co.—at one time one of the most successful concerns in the hard rubber industry—and for awhile was secretary of that company. In 1857 he returned to Connecticut, and was interested in the old American Hard RubberCo., whose factory was at Beacon Falls. Mr. Langdon became interested also in the New York Rubber Co. at an early period of its history, and remained a shareholder in it until his death.

Two of Mr. Langdon's friends, in his native county in Connecticut (Litchfield), became successful New York merchants, and they were likewise interested in the Novelty Rubber Co.—John C. Calhoun, one of the founders of the still successful dry-goods house of Calhoun, Robbins & Co., in New York, and Lucius P. Porter, who, in addition to being concerned in the Novelty Rubber Co., was president of the Norfolk and New Brunswick Hosiery Co., with an adjacent factory—a concern in which several prominent rubber manufacturers were at one time shareholders and which is still in existence.



GEORGE LANGDON.

Mr. Langdon represented Colchester in 1853 and Plymouth in 1859, in the Connecticut legislature. In Plymouth he was selectman, school visitor, town treasurer, and grand juror. He was a member of the board of trustees of the state reform school. He was also a deacon in the Congregational church and a member of the Connecticut Sunday School Association. He married, September 3, 1851, Miss Elizabeth A. Chapman, of Colchester, who survives, with two sons—George E. Langdon, who holds a position in the custom house at New York, and Lucius P. Langdon, of Plymouth—and a daughter, Miss Ellen Langdon.

THE RUBBER SHOES WORN IN CHINA.

THE United States consul at Amoy reports: "While under the present system of noting imports it is impossible to ascertain the country of origin of most goods from abroad sold in China, except by their particular brands, it appears that Germany is supplying the Chinese at the present time with considerable in the way of rubber shoes and boots which ought to be supplied by the United States. The reason German goods have been preferred emphasizes what American consuls in China have been saying for years, viz., that the Chinese market must be studied if American trade in it is to be furthered With ordinary Chinese dress it is impossible to wear rubber boots of the sort usually made in the United States. The Germans make a short half boot or elongated gaiter of light-weight rubber and line it lightly. These meet the Chinese requirements and are growing very popular. Some Chinese men are wearing ordinary American style 'rubbers' in damp weather. All these goods are worn without other shoes or boots."

RUBBER NECKWEAR.—Rubber collars have long been a familiar sight, but rubber neckties are more of a novelty. The flat ascot ties commonly worn by automobile drivers and coachmen, and usually made of white piqué, have now been reproduced in white rubber. They are easy to adjust, do not wrinkle, and are easily kept clean—all of which qualities appeal to the ordinary coachman.—*New York Sun.*

A VISIT TO RUBBER PLANTATIONS IN NICARAGUA.

By The Editor of "The India Rubber World."

WE three, the Importer, the Manufacturer, and the Editor, left Port Limon, Costa Rica, at 1.30 in the afternoon on a hot, tropical December day. The short voyage from Port Limon to Bluefields, something like 150 miles, was to be taken on a small, 52-ton schooner owned by Belanger's, Incorporated, of Nicaragua, and used in trading up and down the coast. The schooner was equipped with a gasoline auxiliary which took up most of the room aft and made the rest of it so thick with gasoline fumes that it was difficult to stay in the cabin ten minutes at a time, so we lived on deck. The vessel was called the *Sunbeam* and was manned by a mixed crew of negroes from the Fortune islands, San Blas Indians, and one Englishman, and was commanded by a Cayman islander.

WHARF AT BELANGER'S.

Starting out against a head wind, our gasoline "Kicker" put us along at the rate of about four miles an hour, and we sat scorching on deck until finally the sun set and we turned in, still on deck, sleeping in our clothes on a pile of old sails in the stern of the boat. The bed was far from comfortable for one at all finical about the soft side of a plank, and the Importer did not take to it a bit. He had chosen a place next to the bulwarks and had only one ring bolt in the small of his back, while the Manufacturer was curled in the form of an S around a huge cleat and a part of the steering gear. However, morning came at last and the little boat kicked along through a blazing sun at first, until finally it clouded up and later, about three miles to the northeast, a huge waterspout was sighted. We were all so dull and drowsy that we didn't pay much attention to it at first. When it drew nearer and nearer and the captain furled all sail and made everything fast, we thought it might be possible that we were going to have some fun. It was the first time I had ever seen anything but pictured waterspouts and I had always been a bit skeptical about them; but when it got within a few hundred feet of us I was a most thorough convert. It was really a most remarkable sight. The sea was quite smooth, except where the end of the great funnel touched the water, and there it was broken up into curious little wavelets. The huge circular tube of vapor did not go straight up, but slanted off into an especially black cloud and appeared to be a mile and a half in length. When it was near enough, the captain began shooting in its direction with an oldfashioned Colt's revolver, and the Manufacturer, getting his gun, took a hand in the same game. Whether the concussion did the work or not I don't know, but before it reached us it suddenly dissolved and in a very few seconds no trace of it was to be seen.

After that we had no further excitement except the catching of a big kingfish, which helped out our table immensely. That night we slept again on deck and went through several showers. We sailed into Bluefields about 9 the following morning, where the doctor passed us as "healthy, but ugly," and then we went up against the custom house officials at the bluff, who fingered our belongings for anything contraband, seeming to take particular delight in running grimy fingers over our toothbrushes, and to have a deep anxiety to unroll camera films, and so on. We got rid of them at last and boarding a flatbottomed sternwheeler were taken across the broad expanse of Bluefields bay, landed at Belanger's wharf and at once went up to La Tropical Hotel for a bath and breakfast. There was but one bathroom and that was situated over the kitchen, which was proved by the sign on the wall: "Don't slop water on the floor; range just below. Gives food a soapy flavor."

WATER FRONT AT BLUEFIELDS.

After breakfast we went out and looked over the little city of frame houses, so radically different from most Central American towns, both in its architecture and in the fact that it is built on a side hill where there is a certain amount of drainage. We didn't tarry long in Bluefields, however, for our flatbottomed boat, *Nat, Jr.*, a sternwheel freighter, was waiting, and with our luggage aboard we soon started up through the wonderful

LA TROPICAL HOTEL, BLUEFIELDS.

system of lagoons and waterways that were to be our pathway to the rubber plantations.

These comprise the Bluefields river, the Escondido ("Hidden waters") river, and a great variety of deep lagoons and waterways intermingling in inextricable confusion, shut in by walls of tropical foliage, an expanse of natural passages so great that a navy might easily be hidden there without the remotest chance of detection. Indeed, in the old days of the buccaneers these lagoons were favorite retreats, and if closely pursued a vessel could slip into one of them, tie a few branches to her topmasts and defy discovery.

WALDRON'S STORE—"CUKRA" AND "CANADA" PLANTATIONS.

The ride up through the Escondido was simply entrancing. There was scarcely a ripple on the water; the foliage of palms, palmettos, mangroves, wild bananas, interspersed with patches of pampas grass the stalks of which were 20 and 30 feet high, all bound together with vines and spangled with flowers, the huge flocks of blue and white cranes and the basking alligators—all made a panorama so wild in its tropical beauty that it added new fascinations every moment.

WALDRON'S "CANADA" PLANTATION.

Finally, late in the afternoon we turned into Sloophouse creek, and a little later were moored at the pier belonging to the "Cukra" plantation. Here we disembarked, and leaving our luggage to be brought up later, followed a narrow gage banana railway up over a little hill, through a part of the 1500 acre banana plantation of the Cukra company, and were soon at the house of Mr. Gordon Waldron, one of the owners, where we had a bountiful supper and a most interesting chat, chiefly on rubber. After supper, in the bright moonlight, we boarded a flat car drawn by a diminutive engine and rode three miles into the country to the road that led to the "Manhattan" plantation. There saddle horses and a wagon were awaiting us, and as it had suddenly clouded up and begun to rain, the Importer and I got on the top of the baggage, preferring to trust ourselves to a wagon rather than a horseback ride through the pitchy darkness. The road was far from smooth and we got ample exercise before reaching the plantation house. We did reach it finally, at 11.30, and turning in under mosquito nets, slept like tops.

At daybreak the whole crowd roused out and going to the door, found that we were right in the middle of planted rubber. It was on all sides of us and even in the yard, the average age being about three years and the trees looking stocky and thrifty. The soil seemed to be a red loamy clay, quite porous, with considerable volcanic rock through it, and the country rolling rather than flat. The soil was exceedingly deep, as was attested by several wells that had been sunk, the deepest being 40 feet, which had not got through that formation.

That the trees bled very freely I was able to prove before breakfast, as I walked around and ran my knife into the spongy bark. A little later when we started out on our tour of inspection, the Importer, who would not ride horseback, was fitted out with a sort of buckboard, drawn by a mule and driven by a Southern darkey known as Jake. The rest of us rode horses.

Almost the first thing that struck me about the planting problem down there was the remarkable prevalence of the morning glory vine. Just as soon as the land is cleared and planted it takes possession, and if it were not cut down constantly around the young rubber trees, it would most effectually smother them. When the trees get a good start, the vine suddenly dies out and the grass comes in. My belief had always been that for grass to get into rubber was fatal to the growth and productiveness of the tree. I saw acres down there, however, with the grass growing among the three year old trees, and they were apparently as healthy and thrifty as they could possibly have been. A little later the shade of the tree seems to discourage the growth of the grass and in one planting, where the trees were between four and five years old, the grass had practically disappeared.

The refusal of the *Castilloa* to put up with too much water was emphasized by a section of land, containing perhaps ten acres, on the Manhattan plantation, where during the heavy rains the water had not drained away quickly enough and most of the trees had died.

Speaking of the rain in this section, the local report is that there is about 250 inches a year. I don't know that that is the result of actual measurement, but while we were there it certainly rained about as easily as it does in any part of the world. During a forenoon's ride we would often go through three or four showers, not heavy ones, but like the gentlest sort of refreshing spring rain. The elevation of the bunch of plantations that we were visiting is about 250 feet above sea level, and as a rule, soil was very rich and very well drained.

RESIDENCE OF SIM IRON.

One of the first plantations that we visited was one owned by

SIM IRON'S RUBBE I PLANTATION.

a genial old gentleman from Virginia by the name of Sim Iron. He runs his place himself and has about 17,000 trees between three and four years old. His ranch houses were more picturesque than those of the Manhattan in that they were palm thatched and built largely in the native fashion. During a part of the year the old gentleman has his wife on the place with him and they seem as happy and healthy as if they were running a farm in a northern clime.

After looking over the Sim Iron plantation we visited "Daytonia," now the "Rubber Grove" plantation, where were some very good trees, although it was explained that the man who started the plantation sold something like $200,000 of stock and spent only $30,000 in planting. He was later prosecuted for fraud and was sent to jail in some one of the United States. The plantation was then taken over by a local company who are getting it into good shape.

After leaving Daytonia we visited some small private plantations, all of *Castilloa*, which looked excellently. Then we returned to the Manhattan house for noon breakfast, and in the afternoon walked across lots to look at the rubber on the Cukra plantation. Just as we got there our first real shower came down. That was not any spring rain; it was more like a cloudburst, and kept us penned in the house for nearly an hour. It cleared off, however, as suddenly as it came on and then we began to examine the interesting experiments that were being carried on by Mr. Waldron.

He had already begun tapping some of his six year old trees and close to the house where we had taken refuge from the shower was his coagulating and drying house. In this house were galvanized iron cans holding half a barrel, each filled with *latex* mixed with water and formaldehyde, while from the ceiling hung long strips of rubber being air dried. Mr. Waldron used the formaldehyde to keep the *latex* from coagulating too soon, and washed out the vegetable acids and the albumen by diluting the *latex* and creaming it. He found some difficulty in coagulating, and had, therefore, fitted up a couple of caldrons close to the house and was boiling the *latex*. The rubber appeared to be very clean, but a little short. Indeed Mr. Waldron acknowledged that he thought it was coalesced instead of coagulated.

From the coagulating house we walked down through the rubber orchard to the trees that were then being tapped. This work was done very carefully and in the most cleanly way, the *latex* being caught in tin cups of which there were three rows on each tree tapped, making 12 cups to the tree. After the milk had stopped flowing and the cups had been emptied, a native was sent around with a spoon to take off the thick creamlike exudation that gathered in the cuts. As this was taken off before coagulation, it went into solution with the rest of the *latex* without any trouble. Mr. Waldron was getting three ounces of dry rubber from each tree and was planning to tap them a number of times during the year. He talked of tapping by team work through the whole of the dry season, and during the wet season to skip only a couple of weeks during the torrential rains.

We tried the Ceylon tool, but it didn't seem any better than the ordinary knife for this work. The general manager of Cukra, although very much of an iconoclast, and not in the habit of following other peoples' lead, acknowledged that much of his tapping and coagulating was only experimental and that he expected before long to work down to a simpler and more practical system. At the same time, he claimed that, cumbersome as his present process was, it proved most thoroughly the profitableness of rubber planting.

During the rest of our stay on this group of plantations we made our headquarters at Manhattan, riding out in various directions and examining the rubber and discussing it with the various planters, who were much interested in making a success of it. There are in the vicinity, at a conservative estimate, about 400,000 cultivated *Castilloa* trees, the largest single plantation being the "Canada" plantation, of which Mr. Waldron is manager and chief owner. This plantation has about 200,000

IN THE SHADE OF A RUBBER TREE.
[Named from right to left: SIM IRON, S. W. SINCLAIR, J. A. BELANGER, CHARLES H. ARNOLD, ARTHUR F. TOWNSEND, The Cook, HENRY C. PEARSON.]

MANHATTAN PLANTATION. "CASTILLOA" TREES. GROUND COVERED WITH MORNING GLORY VINES.

trees. Next to that comes the Manhattan, with about 140,000 trees. This group of plantations lies in the form of an ellipse about five miles long and two miles broad.

After having visited the typical plantations, collected samples, and secured all the information possible, the whole crowd saw us down to the Cukra pier, where we again embarked on the *Nat, Jr.*, and started down the river on our way back to Bluefields.

We reached this Americanized city early in the evening and found that a fruiter was starting for New Orleans the next morning and that the governor had promised to hold it for us, so that we could not miss it. In the meantime, our friends began to make it easy for us to leave the country. One of the first things to be done in leaving Nicaragua is to secure a passport, which one pays a dollar for. Mine described me as being about 35 years old and having red hair, but as long as it sufficed to let me out of the country I didn't care, particularly as the descriptions of the Importer and the Manufacturer were even less flattering.

MANHATTAN PLANTATION. DWELLING HOUSE.

I have already mentioned that the custom house at Bluefields is situated at the bluff, some miles from the city itself, and it was while going over to the fruiter that was to take us to New Orleans that we saw a very curious instance of the peculiar concessions that are held by various companies. It seems that a steamer which was not one of the elect had come down there for a load of bananas. In other words, it didn't belong to the company having the navigation concession. It was, therefore, not allowed to go up into the rivers or lagoons, but, not to be beaten, the steamer's captain sent up to certain planters who promptly despatched a huge scow load of bananas to the bluff where the steamer lay. The government caused the scow to be laid alongside of its wharf while it discussed the unlawfulness of the proceeding, and while the discussion was going on, marched something like a hundred soldiers onto the gunwale of the scow, which careened it just enough to cause the water to flow over the low bulwarks and sink the boat, bananas and all.

I tried to get a photograph of the sinking scow, but was deterred by a gentleman who said that I might get in trouble with the customs officers and get my stuff held up if I gave evidence of being too active a partisan. This was no idle dream, for I had trouble enough with the officials anyhow, although I was not taking anything out of the country except what I had brought in, with the exception of a few samples of rubber and some *Castilloa* twigs that I was taking home in order to discover by what disease they were attacked.

Speaking of diseases of *Castilloa* tree, I noticed in a yard surrounding one of the plantation houses that numbers of trees were affected by scale, some of them quite badly, the insect appearing to have practically destroyed the lactiferous tubes so that the outer bark presented a curious shrunken appearance. This scale, as far as I was able to observe, only appeared where neither undergrowth nor weeds were in evidence round the foot of the tree. All of the trees thus affected were uprooted and burned. I, however, brought samples of the stems back to the United States, and through the courtesy of the experts at the Connecticut agricultural experiment station at New Haven, and the bureau of entomology, at Washington, was able to identify the disease and also discover simple remedies. The reports of the two entomologists follow:

DEAR SIR: Your letter with specimens has been referred to me. The tree seems to be attacked by two species of scale insects; the large brown one is a *Lecanium*, and the small, glassy, greenish yellow one is an *Asterolecanium*. We do not have the literature by which I can determine them specifically. From a knowledge of similar species found in this part of the country I should expect that a thorough spraying with kerosene emulsion or whale oil soap would destroy them, though of course experience is needed to know just how strong to make the mixture. I should try some of these made in the proportion recommended in published bulletins, and if it did not kill them I should use somewhat stronger mixtures. Very truly yours, W. L. BRITTON,

State Entomologist, The Connecticut Agricultural Experimental Station. New Haven, Connecticut, January 25, 1905.

DEAR SIR: - - - The scale insects upon the twigs which you sent represent the akee fringed scale (*Asterolecanium pustulans*), and *Lenaciodiaspis rugosus* (?). This *Asterolecanium* is very common and very in-

ROAD THROUGH MANHATTAN PLANTATION, AMONG "CASTILLOA" TREES.

MOSQUITO INDIANS.

"CASTILLOA" STEM ATTACKED BY SCALE.

STERN OF "NAT, JR."

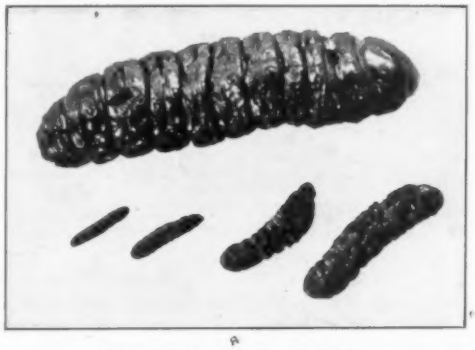
jurious in the West Indies. It works principally upon akee, oleander, fig, and hibiscus. Mr. Maxwell-Lefroy, the government entomologist to the West Indies, in pamphlet series No. 7 of the Imperial Department of Agriculture for the West Indies, recommends kerosene emulsion for the control of this insect. His formula and method of preparation is as follows: "Kerosene emulsion: Dissolve one half pound of hard soap in one gallon of water; add two gallons of kerosene to the hot liquid, and immediately churn with a syringe or force pump until the mixture becomes creamy. This is a stock solution. Make up to 33 gallons. Use only rain water or soft water."

The kerosene emulsion preparation can also be applied for the *Lecaniodiaspis*, of which only a few specimens were found on the twig which you sent.

Yours truly, F. H. CHITTENDEN,
Acting Chief of Bureau,
Bureau of Entomology.

Washington, D. C., February 23, 1905.

Another possible enemy to the *Castilloa* that the alert planters were seeking information about was a wood borer which attacked the tree where the self pruning branches broke off, and occasionally where the bark was cut or wounded. The *larvæ* of the insect are large grubs that after penetrating the outer bark burrow upwards inside of the cambium, and then straight through the wood, completely honeycombing it so that the trees break short off when very little wind comes. This does not always kill the tree, but it sets it back appreciably. These borers appear to be most active during the months of June and July. The planters for a remedy were using a mixture of tar, kerosene oil, black oil, and sulphur. This killed the grub if it touched it, but it was very difficult to reach it because of the length of the burrow. A suggestion for keeping the borer out was to have a gang of men constantly going over the trees and tarring all cuts and the sockets left by the dropping off of the temporary branches. This, however, would be very expensive and hardly practical. I was able to secure a number of specimens of the *larvæ*, and the bureau of entomology at Washington decided that they belonged to one of the large moths, family *Cossidæ*. Their report was that they knew little about the work of this moth, but that the best way to kill the borer was to inject a few drops of carbon bisulphide into the burrow with an oil can, closing the orifice with a little wax. The fumes of the solvent would then penetrate the lower part of the burrow and kill the grub. Professor John Barlow, of Kingston, Rhode Island, however, reported that instead of a moth it was probably a beetle. He suggested the same treatment for the destruction of the grub as the bureau of entomology at Washington did. In this connection it may be well to recall that sometime before this an anonymous writer reported that a beetle, the *Aconsymus longimanus*, was troublesome in Nicaragua just in this way—that is, laying eggs in wounds in the bark of the *Castilloa*, which developed into borers and greatly injured the trees.



LARVAE OF "CASTILLOA" BORER.

The fruiter on which we finally embarked was a Norwegian of about 700 tons and carried 10,000 bunches of bananas. As we were the only three passengers, we took possession of the bridge and also of the captain's quarters and lived high in everything except food. We went out in the face of a norther and ran into one after another during the whole passage. The boat had no refrigerating apparatus, and to save the fruit both the fore and after hatches were kept wide open, and it was a constant matter of wonderment to me that some of the big green seas didn't topple over our bow and swamp us, but they didn't, and we sailed on by Cape Gracias a Dios, through squall after squall, the temperature all the time in the eighties, and finally, missing the delta of the Mississippi by a wide margin, ran almost to Mobile before we got our bearings. We finally got right, however, and went up the Mississippi and landed in New Orleans just in time to enjoy the fireworks with which they usher in Christmas day.

ONE POUND OF COLORADO RUBBER.

THE Salida (Colorado) *Mail* of June 2 contained the following highly important item of news: "Mr. F. E. Hodding, president of the Rocky Mountain Crude Rubber Co., operating an extraction plant in this city, announces that his company is seriously considering an offer from Buena Vista to come to that city. Mr. Hodding says the power of the engine and boiler is insufficient to pull the extractor, and Buena Vista offers a bonus of $2000 to have the plant locate there. This sum would start them in first class condition. A test run was made Wednesday and one pound of rubber was extracted from ten pounds of root, showing it to contain 10 per cent. of the crude product. Mr. Hodding says the extractor works entirely satisfactorially and with more power the company could produce several hundred pounds of rubber per day."

AMERICAN PRODUCTION CO.

THE American Production Co. was incorporated May 12, 1905, under the laws of New Jersey, with $50,000 capital authorized, and with registered offices at Camden, N. J. The principal office, however, is at Pittsburgh, Pennsylvania, and the officers are as follows: M. G. Leslie, president; A. W. Dravo, vice president; E. H. Swindell, secretary; and W. H. Jacob, treasurer. Recent reports from Buena Vista, Colorado, refer to the presence there of Mr. Jacob and S. H. Woodbury in the interest of the American Production Co., and to the granting of certain franchises by the city to this company, in consideration of the erection of a factory for the treatment of at least 15 tons daily of the Colorado rubber plant.——A widely published report having connected the name of The Diamond Rubber Co. (Akron, Ohio) with this enterprise, Mr. A. H. Noah, treasurer of the Diamond company, informs THE INDIA RUBBER WORLD that the report has no basis in fact. Mr. Noah states that while in Colorado some months ago he investigated the so called rubber weed in that region, and found it to contain so little rubber that he considered it unprofitable to invest any money in its exploitation.

A SUGGESTION TO JAVA PLANTERS.

WRITING in *De Indische Mercuur* (Amsterdam), A. H. Berkhout, a leading agricultural expert of Holland, quotes from an article contributed to a French journal by Emil De Wildeman, a well known botanist who states that he has searched in vain for Caoutchouc in the specimens of *Actinella Richardsonii* contained in the herbariums. Heer Berkhout adds: "The impression we have gained from the above article, is that this is an instance of American humbug, but as we may possibly be mistaken, we consider it useful to bring the matter to the knowledge of the Java planters. Provided a further investigation gives good results, seeds will probably soon be brought into the market, and our Java cinchona bark planters might make a trial on a very limited scale."

RUBBER TIRES FOR FIRE ENGINES.

AT a recent meeting of the board of police and fire commissioners of Utica, New York, the question of having some new fire engines now being built for that city equipped with rubber tires was decided in the negative. Mr. R. A. Henry, clerk of the board, advises THE INDIA RUBBER WORLD: "As to the matter of equipping our fire engines with rubber tires, the question of finances was not considered as much as the durability and lasting qualities of the steel tire wheels. We do not think that an engine working at a fire in five or six inches of hot cinders equipped with rubber tires would stand the heat and fire as well as steel tire."

ONE RUSSIAN "CONSTITUTION."

A CORRESPONDENT writes to THE INDIA RUBBER WORLD: "One of the large iron works of St. Petersburg had a strike early in the year. At the end of a couple of weeks the men went back to work, having obtained what they struck for—shorter hours and increased pay. Evidently, in their minds, the strike was the proper lever with which to obtain one's wants of whatever kind. In less than a week another strike was inaugurated. The spokesman of the workers said that although they had obtained all they asked for, yet they would not work with content unless they had a Constitution! The managers tried to convince the men that from the Czar alone might they obtain that much coveted blessing, but no impression was made—no constitution, no work! At last one of the directors drew up a formidable looking document, bearing large red and green seals and with much formality handed the men a "Constitution." With light hearts and happy faces the newly made freemen went to work—and that is the type of Russians now clamoring for a constitution."

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values for April, 1905, and the first ten months of five fiscal years, beginning July 1, from the treasury department at Washington:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
April	$123,705	$ 37,362	$ 232,318	$ 393,385
July-March	670,551	1,062,731	1,831,748	3,565,030
Total	$794,256	$1,100,093	$2,064,066	$3,958,415
Total, 1903-04	734,083	971,625	2,036,682	3,742,390
Total, 1902-03	680,147	983,044	1,881,773	3,544,964
Total, 1901-02	514,470	939,671	1,437,099	2,891,240
Total, 1900-01	448,085	662,971	1,432,124	2,543,180

CUBA.

OFFICIAL statement of values of imports of manufactures of India-rubber, for two fiscal years:

FROM—	1902-03.	1903-04.
United States	$35,252	$35,249
Germany	10,253	8,353
France	4,954	3,678
Great Britain	1,135	866
Austria-Hungary	991	702
Spain	180	311
Mexico	——	80
Italy	109	34
Total	$51,358	$48,125
Duties collected	6,121	5,303

ALUMINUM HOSE POLES.—An English rubber manufacturer on a recent visit to the United States, in going over an important mechanical rubber factory, expressed surprise at seeing iron hose poles in use. He said that he had for years used aluminum hose poles, made in the form of tubing, and that he found them infinitely preferable. They only weighed one sixth as much as iron, did not get out of shape easily, were absolutely unaffected by sulphur fumes, and were so smooth that the hose could be removed without an air compressor. Of course, the first cost of the tubes was a little more, but when they for any reason ceased to be useful, he could send them back for remelting and get 50 per cent. of the first cost, and anyhow, as aluminum is so much cheaper than it used to be, the cost was not an item to be seriously considered.

THE "GUAYULE" RUBBER PLANT—I.

*By Rudolf Endlich, Ph. D.**

WITHIN the confines of the regions in which the plant grows in Mexico, Guayule rubber has been known for a long time. In some parts of the country, and especially in the state of Durango, toy balls have from times immemorial been made by chewing Guayule bark. The first reports concerning this plant and the rubber derived therefrom are said to have been made by a certain Negrete (?), a Jesuit priest, as far back as the middle of the eighteenth century.

The Guayule, or Huayle (*Parthenium argentatum*, A. Gray), a dwarf tree belonging to the order of the *Compositæ*, varies in height between .20 and 1 meter (average height about .60 meter). The trunk has a gray bark and spreads out into many branches. At the ends of the branches, which are often knotted, the reproduction shoots are developed, and bear leaves provided with stems, partly lancet shaped with even edges, and partly serrated with rounded indentations. They are silver gray in color, 2 to 4 cm. in length and from .3 to 1 cm. in width, and form a bushy or umbrella shaped crown. The plain, yellowish buds are affixed to comparatively long stems (ranging in length up to 20 cm.). The plant blossoms during the months of September and October.

The large number of young plants sometimes found surrounding the older trees make it probable that the Guayule can be easily reproduced by means of its seed, provided conditions are somewhat favorable. In the territory surrounding Jimulco, for instance, as many as 50 young plants have been found around full grown trees. Conditions for the development of the young plants, however, are often very unfavorable, especially in very hard and rocky soil, where it is difficult for the shoots to take root. This is probably the reason why young plants are seldom found in the territory surrounding old mines, where in former years Guayule wood, on account of its excellent heating capacity, was used as fuel for ore roasting and for bakers' ovens.

THE GUAYULE PLANT.†

The fact, however, that some young plants are found even in such unfavorable spots, makes it likely that they have been developed from such seeds as were either stamped into the ground by goats (as these animals are the ones which commonly graze in the Guayule territories), or had been dropped by these animals, and thus found favorable conditions of development in the animal excrements. It would, in fact, be difficult to find any other explanation for the enormous growth of the Guayule plant in small, isolated places (having usually the size of the resting places of the goat herds), as such accumulations of Guayule plants would otherwise be found in the lowest places at times covered by surface water if the seeds had been carried along by the rainfall.

In some districts, such as the territory surrounding Saltillo, it is said that the goats are doing considerable damage to the development of the Guayule by frequently feeding on the leaves of the young shoots. That these animals, however, should die by eating Guayule leaves appears very unlikely. Land owners and managers had not observed any such results, although the knotted ends of the branches showed that the leaves and reproduction shoots of the Guayule plants growing on their lands had often been gnawed by goats.

The general opinion is that the Guayule gradually commences to die off after a life of about 15 years. The stumps of trees that have been cut down are said to soon sprout again and to produce, after a lapse of several years, new plants ready for cutting. How long the time is that must elapse appears to be still unknown. As the Guayule roots, however, break easily when the trunk is cut down, most gatherers prefer to pull out the stronger parts of the roots along with the trunk.

The name Guayule (guayhule) or Huayule is probably derived from the Spanish word *Hay* ("there is") and from the Indian word *Hule*, meaning India-rubber. Besides this the plant is known by several other names. In the state of Durango (in the neighborhood of Pasaje), for instance, it is called "yerba de hule," in the north of Zacatecas "hule," in the northern parts of San Luis Potosi "yule," and in the Saltillo territory "jiguhite" (meaning weed). In a few places it is known as "copalin."

The other names "mariola" and "yerba del negro" mentioned by W. Prampolini in his patent specification are evidently the result of misinformation, for in the states of Durango, Coahuila, Chihuahua, Zacatecas, in the Federal district, etc., another species of *Parthenium* (*Parthenium incanum*, H. B. K.), similar to the Guayule, is known under the name of "mariola" and is a popular remedy for stomachal diseases. The *Sphæralcea angustifolia*, St. Hilaire, of the natural order *Malvaceæ*, used as an emollient, is known in many parts of Mexico as "yerba del negro."

The Guayule is found in a comparatively large part of the "bush prairies" (*chaparrales*) in the northern part of the Mexican highlands. The total supply, however, as well as the extent of the territory in which the plant grows, has been considerably overestimated. It seems that the principal cause of this overestimation is due to the "mariola" (*Parthenium incanum*), which is found in the same territories as the Guayule, but in vastly greater numbers. This connection is furthermore proved by the fact that specimens of *Parthenium incanum* have

* Translated for THE INDIA RUBBER WORLD from *Der Tropenpflanzer* (Berlin), IX Jahrg., Nr. 5. † Photographed for THE INDIA RUBBER WORLD.

been sent to the Mexico Museum as a rubber producing plant.

Although it was formerly contended that the Guayule plant was to be found throughout almost the entire north and northeast of Mexico, this supposition has been proven to be unfounded. Still, there seems to be enough material at hand to supply the demand of a considerable number of good sized rubber works.

Besides some smaller districts in Chihuahua, the northern parts of the states of Zacatecas and San Luis Potosi, the eastern part of Durango, and especially the southern districts of Coahuila, appear to offer a profitable field for the working of the Guayule plant. It is said that smaller places of supply, although sometimes at considerable distances from each other, extend from the south of Coahuila to the state of Chihuahua (where the plant has hitherto been found only near Santa Rosalia and Jimenez), and that the plant is sporadically found as far as New Mexico and Arizona. The "Biologia Centrali-Americana" states that the Guayule is likewise indigenous to southern Texas.

The eastern boundary of its territory is formed in San Luis Potosi and southern Coahuila by the foothills of the Sierra Madre Oriental. The western boundary in Zacatecas and Durango would scarcely exceed a strip of an average width of about 100 kilometers, running parallel with the Mexican Central railway. On the line of the International railway, in a westerly direction, a few isolated plants only are found above Pasaje. The plant known as Guayule on the lower Rio Grande and in Nuevo Leon, as well as in the district of Monclava (Coahuila), is neither by its qualities, nor by the territory in which it occurs, in the least similar to the *Parthenium argentatum*.

The existence of the Guayule in the southern part of the Mexican highlands, between Puebla and Tehuacan, has not as yet been proved. Assertions made in this regard have been found to be merely suppositions and were not confirmed by the investigations hitherto made. The same appears to be the case with the reputed Guayule of Central America and Venezuela.

Concerning the elevation on which the Guayule is found, its chief territory may be placed between the altitudes of 900 and 1700 meters [=3000 to 5600 feet]. The largest supply within this zone is not as often found on the plateaus as on the inclines and hills, and more specially on the low foothills of the larger mountain chains, the soil preferred by the plant being mostly very dry and often rocky, with a large percentage of lime in its composition.

The supply of Guayule in its territory is very unevenly distributed. In most parts the plants are isolated, growing sometimes in large and oftentimes in small numbers among the other plants of these mountain inclines, rich in lime. At rare intervals small spaces are found, where it predominates among the flora of the *chaparrales*.

An estimate of the average supply per hectare is very difficult to make, both on account of the uneven distribution of the plant and of the great differences in the size of the individual plants. In favorable territory I have on several occasions counted 30 to 40 plants on an area of 100 square meters, which would mean a total supply of 3000 to 4000 Guayule plants per hectare [=1215 per acre]. The differences in size and weight are so great that in places where the plants are small and grow close together 10 plants have a weight of only one kilogram [=2¼ pounds], while in the best territories some of the trees weigh as much as 3 kilograms each. The average weight will probably not exceed 500 grams [=1 1/10 pound] per plant.

Estimates of the Guayule supply in large areas vary from 500 to 800 kilograms per hectare, but the distance between the different places where the plants are found are often considerable, and must be taken into consideration. The territory containing the more important places of supply, include a total area of about 75,000 square kilometers [=about 29,000 square miles].

The Guayule, the only rubber producing plant belonging to the order of the *Compositæ* known at the present time, is distinguished from the other rubber producing *Euphorbiaceæ*, *Moraceæ*, *Apocynaceæ*, *etc.*, by the peculiarity of its bark, which contains no milk sap. It appears that the rubber of the Guayule is dissolved in the sap of the cellular tissue, not only of the bark, but likewise of the wood. Only the shoots bearing the leaves and blossoms seem to contain no rubber, as experiments show that no rubber can be obtained from them by chewing them, while rubber may be obtained in this way from the other parts of the plant. Although considerably less rubber is produced from the wood than from the bark, the rubber contained in the wood is purer, and consequently lighter in color (amber yellow).

The relation between the amount of rubber contained in the bark and that found in the wood of the branches is approximately that of 7 to 2. The bark, moreover, contains aromatic substances of a balsamic character, and especially in separate ducts a gumlike product of degradation, which shows itself in drops on the surface whenever the plant has suffered an injury. The substance, which is similar to gum arabic and light in color, has hitherto been the cause of the stickiness of the Guayule rubber, and, consequently of its low market value.

As the crude material is difficult to break up or cut when fresh, it is worked after having been more or less thoroughly dried. In the dry climate of the Guayule districts it is usually sufficient to expose the gathered plants for a few days to the air, so as to prepare them for working. Various tests of the weight of dried plants showed that 100 parts were made up of 47 per cent. of wood and 44½ per cent. of bark, while there remained only 8½ per cent. of leaves and of the shoots of the previous year, a part of these being lost during transportation.

The price of dried Guayule plants, including freight charges, has hitherto been quoted at 15 pesos. At the present time, when several competing enterprises are about to acquire a larger supply of plants the price has risen to 30 and even to 40 pesos per ton, according to the distance between the places of origin and the stations or works.

For transportation by rail the Guayule is usually packed in pressed bales. The old method of shipping it in bulk had the disadvantage of requiring more labor. Besides, parts of it were often stolen at the stations, the people taking it for use as fuel.

EDITORIAL NOTE.

IN the exhibits from Mexico at the Philadelphia Centennial Exhibition of 1876, the display made by the state of Durango included a specimen of good rubber stated to have been produced from a native plant of the genus *Cynanchum* of the natural order *Asclepiadeæ*, according to Señor Fernando Altimarano, of Mexico city, to whom the plant had been sent for study. This appears to have been the first rubber from that region seen in the United States. In 1888 Mr. John H. Cheever, the founder and then treasurer of the New York Belting and Packing Co., imported from Hot Springs, 15 miles from Santa Rosalia, state of Chihuahua, Mexico, 100,000 pounds of a shrub known locally as "hule," from which the bark was removed and from the treatment of the latter a yield of rubber was obtained equal in weight to about 18 per cent., which Mr. Cheever regarded as equal to the best grade of "Centrals" in the market. On account of the freight charges the cost of the rubber produced by Mr. Cheever was equal to the current selling price of good "Centrals," and he was not interested in further experiments. This was probably the most extensive operation up to that time in producing rubber from the plant now known so widely as "Guayule." A report on Mr. Cheever's experiments appeared in THE INDIA RUBBER WORLD, April 10, 1895 [page 199].

SUNDRY CRUDE RUBBER INTERESTS.

A FRENCH RUBBER ASSOCIATION.

THE French Comité du Commerce et de l' Industrie de l'Indo-Chine have taken the initiative in the formation of a colonial rubber association, measures for completing the organization of which were taken at a recent meeting in Paris. The object is to lead to the utilization to the fullest extent of the rubber resources of France and her colonies.

The general plan for the association, presented by M. André Spiré, related (1) to completing a catalogue of all the rubber plants indigenous to the French colonies, with details as to their distribution, rate of yield, and value of their products; (2) the study of methods of exploitation, with a view to arriving at the largest possible profit from the exploitation of native trees; (3) the introduction of rubber culture, both of native and foreign species, based upon a study of the best cultural methods yet developed in any country; (4) the exerting of every proper influence to induce the coöperation of local authorities in the work here outlined; and (5) a propaganda in France in behalf of the use of colonial rubbers by the manufacturers of that country, as a means of extending their consumption, together with the establishment of a great French market for crude rubber.

M. Charles Duffart, of the *Revue Commerciale* (Bordeaux), was surprised at the apparent ignoring of the rubber market already existing at Bordeaux, where the imports had grown from 51 tons in 1898 to 1182 tons in 1904. He thought that, instead of attempting to create a new market, efforts should be made to acquaint consumers more fully with the advantages of buying through Bordeaux, where a market had been created at great effort and cost. Among things desirable to be done, according to the *Revue*, would be to bring the French colonial banks "to a more intelligent understanding of the commercial methods of the Belgian, German, and English banks which facilitate the negotiation of warehouse receipts for rubber, a practical business measure too often despised by us or looked upon as evidence of the embarrassment of the borrower."

A GERMAN IDEA FOR BUYING RUBBER.

AT a meeting of the German rubber manufacturers' association called last year to consider an advance in the price of rubber goods, a director of a factory not a member of the society submitted a proposition looking to the formation of a commission for the purchase of crude rubber and other raw materials, to consist of five, of whom four should be members of the Central Verein Deutscher Kautschukwaaren- Fabriken (the manufacturers' association). The meeting refrained from action on this proposition, which was referred to the directors of the society. Afterward the proposer presented plans for a purchasing commission in more detail, which may be summaried briefly as follows:

He implied that, on account of the business standing of the members of the society and the capital at their command, they were in a position to take in hand an interest most vital to their industry—the purchase of crude rubber in such large quantities as to obtain it at prices corresponding to those paid by dealers, and to become distributors at home and abroad to non-members so as to dispose of any surplus purchases at a profit. The buying of rubber would be conducted by a limited liability company formed for the purpose; it would not be necessary for members of the Central Verein to belong to this company, but those who desired to belong to the company must first become members of the Central Verein. The shares of individual factories in the purchasing company would be regulated by their annual requirements of crude rubber.

It would be the business of the purchasing company to form satisfactory relations with the markets at Liverpool and Manáos, and eventually other points, and to create storage depôts at Hamburg and Antwerp, whence members would be informed promptly of actual or prospective arrivals, and be supplied with samples. The purchasing company would from the beginning give close attention to the matter of rubber culture in Ceylon and elsewhere, not with a view to establishing plantations, but to watch for favorable chances to buy such as might become productive. It was not intended that dealers in rubber should altogether disappear, but the formation of this buyers' union would from the outset prove a barrier against speculation in crude rubber, and the union would be from the start one of the most important of all rubber dealers, whose patronage would be sought by the producers of rubber.

A FALLING OFF IN KASAI RUBBER.

OUR Brussels contemporary, *La Chronique Coloniale* (April 2), does not regard as particularly favorable the showing made by the Compagnie du Kasai (the Kasai syndicate) for the fiscal year ended December 31, 1904, although the company have announced an *interim* dividend of 50 francs for each one-tenth part of a share, and *La Chronique* is assured that the further dividend for 1904 will also be 50 francs, which will bring the total disbursement for the year up to 1000 francs for each full share. The company is constituted with 2010 shares—without designation of value—which would make the dividend amount to 2,010,000 francs [=$387,930]. The net profit for the year amounts to 4,502,256 francs, but the disposition of the balance is not referred to.

The fiscal year of 1903 allowed of the distribution of a dividend amounting to 750 francs per share, and the preceding year a dividend of 250 francs. The Brussels paper says that while the dividend for 1904 certainly denotes an apparently prosperous condition, it would be wrong to infer that this condition could not be better. There was a production in 1904 of 1156 tons of rubber, against 965 tons in 1903, and only 265 tons in 1902. In 1902, however, the Congo Free State reimbursed the company, at the rate of 10 francs per kilo, to the extent of 1,000,000 francs in respect of certain rubber taken for account of the *Domaine privé*, and this sum permitted the payment of the dividend for 1902.

It is pointed out that the collection of 1156 tons last year was materially less than that of the total harvest of the 14 companies operating within the territories of the present Kasai company before the organization of the latter. [For a list, see THE INDIA RUBBER WORLD, July 1, 1903—page 344.] This harvest amounted to 1850 tons for the fiscal year immediately preceding the formation of the syndicate. The crop for the last fiscal year is about 700 tons less than this figure. "If," says *La Chronique*, "we consider that this result was obtained notwithstanding the exceedingly favorable privilege granted by a decree issued in April (1904) permitting the company to sell powder and guns it must be admitted that the activity in the exploitation of the domain under the Kasai company shows retrogression."

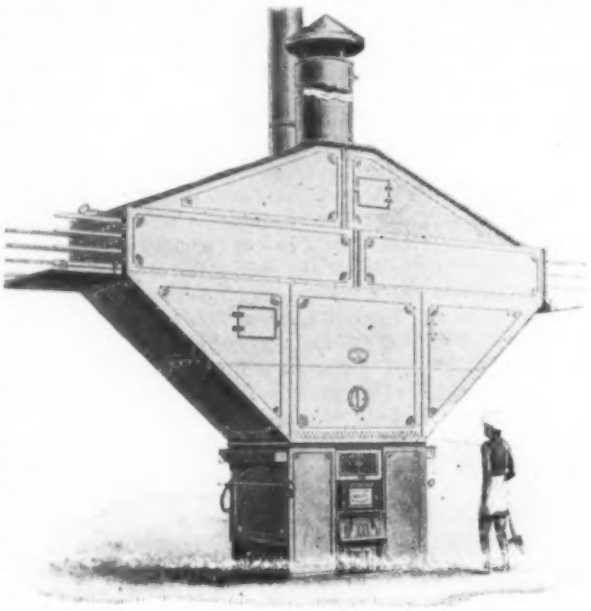
The cost price of rubber is not appreciably less than at the time of the simultaneous exploitation by the 14 rival companies.

But the enforcement of the decree of the Congo Free State prohibiting the crushing of rubber *lianes* was suspended for the benefit of the Kasai company, and this law cannot, therefore, be held responsible for the diminution in the rubber output of the Kasai region. It must be attributed to the fact that the exploitation has been confined to the previously worked territories and that the opening of new sections has not been attempted. *La Chronique* concludes: "The Kasai company is certainly living on its capital which, considering the future, is much to be regretted."

"SIROCCO" DRIERS FOR CRUDE RUBBER.

THE problem that more than any other has been interesting the rubber planter of late has been the quick and thorough drying of the water filled discs of crude rubber. In the far East, and particularly in Ceylon, machinery is very generally used on the great plantations. In tea for example a factory is a part of each, and machinery for withering, rolling, drying, and packing is a part of the regular planting equipment. It is therefore most reasonable, when the tea planters turn to rubber culture and have a drying problem to solve, that they should test the tea driers. This they have done, and successfully.

The accompanying illustration shows a 20 tray "Sirocco" drier, smiilar to the tea drier in general use, but in this instance built for cinchona bark, cocoa, and coffee. The trays are of the end slide type, and are loaded at one end and discharged at the other. The trays are 6 inches deep, and run on small rollers. The machine shown has separate air and smoke chimneys but the two can be combined in one, as in the case of tea driers, if desired. The heaters are either "vertical" or "multitubular" and when it is desired an electric alarm thermometer is supplied with the machine so that the heat may be regulated with exactness.



"SIROCCO" DRIER FOR CRUDE RUBBER.

Speaking generally of the "Sirocco" drier, they make use of a self acting upward current of heated air. This current is regulated within by air valves or by the operation of the smoke and air chimney, so that the greater the heat the stronger is the hot air current, which passes over all of the drying trays.

In practice, where rubber is the material to be dried, the wet pancakes are first dried in the machine described, for about 3 hours, at a temperature of 150° F. They are then taken to a room above the drier where the warm exhaust air is collected and spread on wire mesh trays where the drying is finished. Manufactured by Davidson & Co., Limited, Belfast, Ireland, with branches at Calcutta and Colombo.

PLANTING NOTES FROM THE FAR EAST.

THE area planted to rubber in the Federated Malay States is estimated, in a note in *The Tropical Agriculturist* (February 1, 1905) at 25,551 acres. It may be mentioned here that the administration report for 1903 of the state of Perak alone says that there must be 25,000 acres under rubber in that state. The report states: "There are over 18,000 acres in Lower Perak, and about 4000 acres in Krian. Of this acreage the area owned by Europeans may be set down at about 7000 acres."

=The Singapore *Straits Times* (April 28) reports having seen exceptionally fine specimens of cultivated *Hevea* rubber from Bertram estate, Province Wellesley (Malay peninsula), which embraces 300 acres planted to rubber, of which 3 acres, covered with 7 year old trees, are now being tapped. Bertram estate is owned by Bim Eow Hong, Quah Beng Ho, and T. Gawthorne.

=It now appears that the Grand Central Ceylon Rubber Co., Limited (Colombo), will not be organized on the lines indicated in THE INDIA RUBBER WORLD of June 1 [page 300], on account of the failure to complete negotiations for acquiring the Sabaragamuwa lands of 15,000 acres. The company will, however, proceed with the acquisition of the Urumewella estate, already partially planted with rubber, and a new prospectus is expected to be issued.

NEW COMPANIES.

RUBBER Estates of Ceylon, Limited, registered in London, April 11, 1905, with £100,000 [=$486,650] capital, to acquire the Muwankande estate, in the Kurunegala district of Ceylon, and the Mousava estate, in Galagedara district, the two estates comprising 968 acres and the latter containing at last accounts 10,000 rubber trees planted in cacao —and other properties in Ceylon and elsewhere, and to plant rubber and other products.

=Palmadulla Rubber Co., Limited, registered in London, May 23, 1905, with £60,000 [=$291,990] capital, to acquire the Geragama tea estate, in Central Province, and other properties in Ceylon, and to grow tea, India-rubber, and other products. H. K. Rutherford, mentioned hitherto in these columns in connection with various Ceylon plantations, is one of the original directors, and a holder of 500 £1 shares. Registered offices: 10-11, Lime street, E. C., London.

=Kuala Selangor Rubber Co., Limited, registered in London, May 12, 1905; capital, £12,000 [=$58,398], in £1 shares; to adopt an agreement with L. T. Bonestead and W. A. Horn, and to carry on the business of rubber planters in the Federated Malay States.

=The Malay Peninsula Agricultural Association recently invited the submission of essays on rubber to be forwarded not later than July 1 to the secretary at Penang. A gold medal, with $50 in cash was to be given for the best essay on Pará rubber, its cultivation, methods of tapping, and manipulation of the *latex*, and a similar prize for the best essay on Guttarambong (*Ficus elastica*).

RUBBER PLANTING COMPANY PUBLICATIONS.

THE Tehuantepec Rubber Culture Co., New York.=Report of the Official Inspector [Theodore M. Bates]. 18 pages.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

THE London County Council, a most important buying body, has got out a full set of specifications for the various rubber goods purchased, and considerable strictness is shown in seeing that deliveries correspond to the specifications. There have been cases recently where manufacturers have had goods rejected but it seems to have been quite their own fault. Having discussed the matter generally with some members of the trade I took an opportunity which presented itself recently of interviewing an official whose position entitles him to speak with authority. It was not their wish, he said, to act at all harshly; they merely wished to have uniformity in delivery, and nothing was said where the discrepancies were but slight. They were always glad to discuss any matter of complaint with the manufacturer's chemist but they could not agree to the proposal that the certificate of an outside analyst should be put in. My informant took it that all the principal works had their own chemists but I informed him that this practice was not universal, and that firms who had important rubber contracts had what analytical work they required done outside. A great trouble, he said, was the constant change of contractors, their experience being that new comers took some time to conform to the letter of the specifications. He also expressed the opinion that firms tendered at prices which could hardly pay them in order to be able to advertise themselves as being contractors to the Council. This may probably be so, but it must not be overlooked that the cost of production is not the same with individual firms, and one may make a profit where another would show a loss. Again with regard to this point I know of one case for certain where a firm got the contract and carried it out at a loss owing to a clerical error in their quotations. It was quite foreign to their intention to undercut in this way and their next quotation, all the more if rubber should have fallen, will doubtless cause some surprise if not another of those changes which are considered undesirable.

OFFICIAL SPECIFICATIONS.

AS far as the home trade is concerned there is nothing to report except stagnation. With regard, however, to the shipping trade, it is noteworthy that the South American market is good and shows a considerable increase of business during recent years. The demand is almost entirely limited to high quality goods, pure Pará proofing being very prominent in an attractive lot of samples which I recently inspected, destined especially for this market. As an instance of the unsatisfactory position of the trade the recent report of Messrs. Birnbaum, of Hackney Wick, London, may be mentioned. This firm is one of those whose business is confined to the proofing branch and it is not surprising that they have felt the altered condition of affairs more acutely than firms like Macintosh's and the North British, who have so many departments that slackness in one of them may easily be counterbalanced by briskness in another.

THE PROOFING TRADE.

I HAVE heard of two applications of waste rubber which are novel to me, but beyond what has been told me I have no personal knowledge of how far they have been successful. In the first the old vulcanized rubber is melted up and applied to structural ironwork as a rust preventer. The idea, I understand, comes from Denmark and is being exploited by a company having a works near Belfast, Ireland. The other application was made known to me in a London drawing room by a retired officer who had been "approached" with a view to his taking a monetary interest in it. In this case the old rubber was to be melted on a basis of wire gauze and the product applied as a boiler covering in place of the fibrous or mineral coverings commonly in use. The new covering was stated to be already in use in various industrial centers. As I have said I only know of these new applications by hearsay, but in case the scepticism which I have is ill-founded and an erroneous impression be caused by these remarks, I am sure that any disclaimer from parties primarily interested will receive due attention if sent to the offices of this Journal.

NEW USES FOR WASTE RUBBER.

THE speculation which has long been rife as to the personnel and location of the British Michelin company has now been ended by the announcement of the formation of the Michelin Tyre Co., Limited. The capital is £60,000, in £10 shares, and it is really a private combination between the French house of Michelin and Warnes, of Tottenham, England. Such a union augurs success on account of the high reputation of the individual firms. So far, however, Warnes, prominent as they have been in the solid cab tire business, have not been known or at any rate not prominently with regard to motor tires. This is patent from inquiries made to me by motorists who are familiar enough with the names Dunlop, Moseley, and North British. "Who are Warnes?" is a common expression in motoring circles. One would have thought that the well known red tobacco pouch would have removed any tendency to such ignorance, but the fact remains that there is room for enlightenment. As far as I can judge the new company will find the Continental company of Hanover their principal competitors for the custom of the general motorist.

THE MICHELIN TYRE CO., LIMITED.

QUITE a big business, and I should imagine a profitable one, is being done by The B. F. Goodrich Co. (London) in the supply of the necessities for repairs. In fact, the motorist, besides developing as an engineer, is rapidly becoming versed in the mysteries of the rubber trade. The portable vulcanizer, something on the lines of the cable jointer's apparatus, is coming into increased use, and no doubt proves of much service where rubber works are at a distance. With regard to that important commodity, rubber solution, I hear a good many complaints to the effect that it is not as strong as it used to be. This complaint is no doubt well founded, as there has been a tendency of late years to reduce the amount of rubber. I should judge this to be a rather mistaken policy. The owner of a motor car or a motor cycle is not likely to be particular to a few pence as to the price he pays for his solution. At any rate he expects to get stuff that will do the work, and if a weak substance is put on the market in order to meet competition, the buyer's attention should be drawn to the fact that he can have a better quality by paying for it. A few years ago the cyclists' solution used to contain 15 per cent. of rubber, all of it, moreover, Pará rubber. Now the rubber content has been considerably reduced and the rubber is half African. I notice that another firm besides the one recently burnt down at Bradford uses bisulphide of carbon as the solvent instead of naphtha. This firm which is situated in the

TIRE REPAIR OUTFITS.

Birmingham neighborhood takes the precaution of labelling the collapsible tubes highly inflammable, a very necessary precaution seeing how ignorant the great bulk of the purchasers are of the nature of this mephitic liquid.

THE BICYCLE BOOM.

THAT there is a new boom in the Coventry cycle trade is a fact, but whether the manufacturer's profits will be at all in accord with the rush of business is a matter which admits of much speculation. Of course the boom has been primarily induced by the great reduction in prices, but I am informed that it is not the cheapest machines which are experiencing the greatest demand. It is the old £25 machine now reduced to a little more than half that amount in which the bulk of the business is being done, according to a report from the seat of the trade which should be trustworthy.

THE SPALDING GOLF BALL.

FOR many years the cry of the jobber has been for a ball that will show up white when chipped or indented. This desideratum was never attained by the coating of white paint, and the much vaunted process of bleaching the gutta before use met with very partial favor or success. In the ball recently put on the market by the Spalding company, I understand that the desired end has been attained and that the white color of the gutta remains permanent whatever amount of belaboring the ball may undergo on the links. The ball is of the rubber cored type and at present is being sold at the somewhat elevated price of 2 shillings 8 pence each.

HASKELL GOLF BALL CO. VERSUS HUTCHISON.

AS I write, this interesting case has not yet come to a conclusion, though it has already extended over several days at the chancery courts in London. Under the circumstances, therefore, I am precluded from comments save as to generalities. From what individual golfers tell me, the Kite ball is nothing like so good as the Haskell, and the latter need not fear any serious competition. As regards the merit of the case a rubber manufacturer of some note assures me that the Hutchison side ought to win—that is, if their case is put to the best advantage. In his subsequent remarks as to it being the lawyers rather than the facts which generally decide their case other litigants will no doubt acquiesce. The legal columns of *The Times* have hardly noticed the case and the references in other dailies have been but slight.

ARTIFICIAL LEATHER.

I HAVE nothing new to say of this department though it may be mentioned that by general report the business of such firms as the Pluviusin Co., The New Pegamoid Co., and various others in the same line is showing continued progress. It has naturally taken some time for these products to make headway against leather, but they have now satisfactorily established their advantage both as regards durability and price.

INSURANCE OF RUBBER FREIGHTS.

IT is very exceptional for marine insurance companies to have claims made against them for rubber damaged in transit, though there was a case a few years ago where the rubber was stated to have been damaged by sea water. The claim was not a large one and the company paid up sooner than resort to litigation. To my mind, however, it is difficult to see how the salt water could have been injurious; at any rate plenty of expert evidence could have been obtained to show that saline solutions are regularly used in the coagulation of the rubber milk. With regard to the insurance of rubber cargoes from Brazil it is easy enough to effect them from Pará or even Manáos, but with respect to what comes from the interior to Manáos I am informed that no English house will take the risk, despite the efforts put forth by importers. It is stated in insurance circles, though I cannot vouch for the truth of the statement, that owing to lack of supervision a good deal of rubber is thrown overboard during the tortuous river passages to be afterwards gathered up by the wily participators in the movement. It is recognized at home that adequate supervision is not to be expected but until greater efforts are made in this direction than are apparent the insurance people will continue to hold aloof.

SIR ROBERT BRIDGFORD.

COLONEL SIR ROBERT BRIDGFORD, V.D., K.C.B., who died recently held for a few years the post of director of Messrs. Charles Macintosh & Co., Limited, being elected thereto by reason of his general business attainments, though he had had no previous experience of the rubber trade. His military service was confined to the volunteers movement, in connection with which he was probably better known at the war office than any officer of the service.

ELECTRICAL MATTERS.

THE reference in the May issue of this Journal to the new rubber cable being made by the Safety Insulated Wire and Cable Co. (New York) for Mexican waters is interesting as bearing further testimony to the importance of vulcanized rubber in this direction. There are still plenty of doubting people who disparage the use of rubber in deep sea work and ignore its triumphs. The statement that the evil disposed *teredo* lets rubber alone while attacking Gutta-percha is interesting. Is the fact to be explained by the greater toughness and elasticity of rubber rendering an attachment difficult, or is it that there is something too medicinal about the sulphur?——I am not aware how that very destructive insect, the white ant of the tropics, regards rubber from a dietary point of view, but according to what I have been told by Royal engineers, it makes short work of Gutta-percha, it being found necessary to encase the shore ends of cables in metallic armoring.——In discussing electrical cables the other day with an engineer, I remarked that rubber cables of course only had a certain life; his rejoinder was that they had such an uncertain life, and it was due to this uncertainty that the bituminous and fibrous insulation had made such advances. At the same time it was conceded that each insulating material had its advantages for special classes of work, and the vulcanized rubber cable is holding its ground well. With regard to mining applications where the conditions with respect to moisture and rough handling are so trying, there is considerable divergence of opinion as to the most suitable type of cable.—— The New Gutta-Percha Co., which controls the Gentsch patents, has had satisfactory reports of their Pernax insulation which has been under trial at Edinburgh for 18 months, and which has also been adopted to some extent on the London County Council tramways.——One of the electrical journals recently had an advertisement for an electrician who has a thorough knowledge of mishaps to cable systems, particularly from electrolysis. I should think that a man of such attainments would not be easily obtained. The causes of a good many breakdowns are wrapped in obscurity, and while the method of putting things right may be straightforward enough, the explanation of the trouble generally remains in abeyance. A man who can at once solve such problems ought to be worth a good deal more than the low salaries which are now so general in the electrical engineering profession as a direct result of overcrowding.

A TIRE PUNCTURE.—A puncture is a trifle, and a trifle is a scrap, and a scrap is a fight, and a fight is a battle, and a battle is war, and war is what General Sherman called it. Therefore, a puncture is the same. [Attributed to R. D. Chapin, sales manager of the Olds Mobile Works.]

THE LATEST WATERPROOF AUTOMOBILE APPAREL.

FAIR followers of the sport of motoring enjoy their runs into the country ten-fold as well as they did a few years ago, and for this increase of pleasure the tailors are to be thanked. For they have combined beauty and utility in motoring coats in a way that must delight the heart of every normal woman.

As soon as the automobile began to take its place in the world of true sport, the women to whom it appealed united in a wail, to their tailors and hat makers, of "What shall we wear? We must have something that will defy rain, wind, and dust, and yet be pretty and smart." The tailors racked their brains to think of a material that would fill the bill and brought forth suits of leather, which although serviceable were too heavy, especially for warm weather, and lacked the smart touch without which no garment may hope to find favor in a woman's eyes.

At this crisis rubber waterproofed goods began to be considered favorably as a material from which to fashion automobile coats. There was a time, of course, when rubbered goods held first place among waterproof coats—in the days when the mackintosh ruled supreme. As everybody knows, however, the trade in the goods declined, in favor of cravenetted and other rainproof coats. But the automobile has brought the rubber waterproof back on a great wave of popularity, so that now it is far and away the favorite material for touring costumes. Today the rubber proofed garments are to be seen at the seashore, in the country, and on every city street where the well appointed automobile finds its way, and for a combination of grace and utility, they excel all others.

Because of the impetus which motoring has given to this use of rubber, a number of novelties have been put on the market recently and are proving most acceptable to automobile devotees, both men and women. What is known among tailors and dealers in automobile apparel as satin rubber is one of the newest importations. The outside looks like a piece of unusually good satin and the under side has the usual rubber finish. Such goods is of delightfully little weight and lends itself admirably to plaiting and stitching.

A Broadway shop noted for its selection of fashionable automobile apparel recently has exhibited several styles of women's coats of this material which appear especially worthy of description. The most striking model is a redingote of bright scarlet satin rubber, made with a blouse back and front, gathered on a white satin rubber belt. It is double breasted and made with full sleeve plaited in to wide white satin cuffs. The military collar is also of white and the buttons that extend in two rows down the front are of gun metal filled in with red satin. This coat is one of the novelties of the season in Paris. It has not been seen before in New York, but the dealers say that it bids fair to be popular, notwithstanding its delicate colors, for it seems to be a good dust shedder.

Another model of satin rubber which has found favor with French women is a three-quarter length coat in gray, piped with brown leather. This is made on the Empire style with a yoke and skirt, the skirt being put on to the yoke in knife plaits; and just at the back it is fashoned into a box plait.

A third automobile coat which has come lately from Europe is of champagne satin rubber, made full length. It is single breasted, trimmed with gold and brown enamel buttons, with the box back held close by a wide belt. This coat is furnished with two large pockets, one on each side of the front, with large flaps to protect the contents from dust. The sleeves are made with one box plait extending to the elbow, where the goods is puffed. Below the puff are two smaller plaits which continue to the wide cuffs, under which are dust cuffs clasped tight to the wrist by elastic bands.

But New York women of late have been buying silk rubber garments almost exclusively for automobile wear. Gray, blue, champagne, and red are the favorite shades, and the styles are quite bewildering, both in variety and smartness. For a

LONG COAT FOR WOMEN.
[Silk Rubber.]

SUIT FOR WOMEN.
[Silk Rubber.]

TOQUE-POKE BONNET.

LONG COAT FOR MEN.
[Silk Rubber.]

AUTO SHIRT FOR MEN.
[Cambric Rubber or Silk Rubber.]

NOTE.—All the cuts on this page and the next are used by the courtesy of Messrs. Saks & Co., Herald Square, New York.

long coat—and it is to the full garments that one invariably leans—nothing could well be more fetching than one which is pictured here. It is of the tan silk rubber, made very full, with large bishop sleeves, which make it possible to be worn over an elaborate gown without disastrous effects. The charm of this coat is in its simplicity, for its sole trimming consists of a series of box plaits which form a yoke and which extend over the shoulders and down both sides of the front to the bottom of the garment. The back is made in the loose box style, confined by a wide belt.

Another model which is seen in Broadway shops appeals at once because of its practicability for long motor trips. It is a full length coat in dark blue silk rubber, made with storm collar and dust cuffs, and trimmed with Danish leather of the same shade. Its chief point of excellence is its manner of fastening. It buttons down the center on a false fly and again at the extreme right, thus protecting the wearer from wind and dust.

MEN'S RUBBER PONCHO FOR MOTORING.

Grey silk rubber is the material used in the automobile suit of three-quarter length jacket and skirt which is shown here. The coat is a box style with a full belt and a fancy stitched yoke, extending in points over the shoulders and down the back; and the circular skirt has two wide straps of the fabric stitched on both sides and trimmed with black buttons. The large sleeves have tab ends finished off with buttons.

In men's automobile garments the silk rubber in grey, brown, or navy blue is most often seen. The two models here illustrated are good examples of motoring styles for men. Probably no other garment of its kind has met with as much favor as this long coat model. It is pleasing to the eye as well as a splendid protection from the elements. The coat is single breasted in reality, buttoning down the center on a false fly, but a double breasted effect is given by the flap which extends over to the extreme right when it buttons all the way down to the edge of the coat. A ball and socket fastener confines the extreme end of the wide skirt.

LAP AND FOOT ROBE.
[Covert or Serge Mackintosh Cloth, or Cambric Rubber.]

Men seem to consider the "auto shirt" one of the cleverest garments that have yet been designed for them. This may be had in plain black rubber or in the more expensive and prettier silk rubber of single texture. It is made to slip on over the head, and by this precaution obviates all chance of dust sifting through to the clothes beneath. The shirt and the full sleeve of this garment are each in one piece.

No description of automobile garments for men's wear would be complete without mention of the poncho coat—made in one circular piece extending a little below the knees and without armholes. By this arrangement the arms are kept entirely under cover and the skirt is made with such a wide sweep that the wheel of the machine may also be protected. The entire yoke of this coat is elastic and to the body of the garment a hood is fastened, which has an ingenious arrangement of straps and fasteners that allow it to be quickly drawn over the hat and about the face.

Rubber waterproofed material has become no less popular for caps and hats for both men and women motorists. For the "Yankee" cap, the brim of which is turned down to protect the back of the head; for the tourist cap, which has a long head and face shield in which goggles are inserted, and for a dozen other styles in caps for automobile wear, rubber is indispensable, while its use for hats has changed the automobile millinery question for women from a bore to a pleasure.

The toque-poke bonnet pictured on page 341 is only one from a large variety of pretty fashions of headwear for the fair tourist. This particular bonnet, designed by a French milliner, is of navy blue silk rubber trimmed at the front with chiffon rosettes. By a simple arrangement of elastic bands the flexible brim, which shields the ears and hair during a trip, may be turned up and fastened, thus connecting the poke bonnet with a fashionable toque. Such a model as this has no small part in converting public opinion from the old idea that to be a motorist a woman must look like a fright.

HELEN L. STOUT.

RUBBER FROM THE ISLE OF PINES.

FOR some time past a report has been rife that there were valuable rubber trees on the Isle of Pines, near Cuba, and many interesting stories have been told concerning them. Some months ago THE INDIA RUBBER WORLD undertook to discover exactly what tree or vine on the island produced rubber, if any, and while so far neither bark, leaves, or fruit, or indeed a description of the tree have been received, a bottle of *latex* was secured, and its rubber contents have been carefully appraised. In coagulating this *latex*, the best process seemed to be a simple air drying, as neither acids nor alkalies affected coagulation any better than did exposure to the air, while the addition of alcohol to the *latex* gave only a moderately successful result. The gum itself at best was very sticky and would hardly bring more than African paste in the market. Submitted to Professor S. P. Sharples of Boston, for analysis, the report was that the article was more in the nature of a gum resin than of a rubber, nearly the whole of it being soluble in alcoholic potash and also in acetone. Taking into account that labor is high priced in the Isle of Pines there is very little reason to think that even if the gum proved itself to be useful to rubber manufacturers, that is, if it would take up compounds and vulcanize, it would be too cheap to gather profitably.

BRAZIL'S EXPORT OF RUBBER FOR FOUR YEARS.

[ALL FIGURES INDICATE KILOGRAMS.]

PARA RUBBER (INCLUDING CAUCHO).

PORTS.	1901.	1902.	1903.	1904.
Manáos	15,679,929	13,706,317	16,499,519	15,331,869
Itacoatiára	14,112	4,744	.....	2,175
Pará	13,467,403	13,406,639	12,559,057	13,171,212
Maranhão	.....	.....	199	13,410
Ilha do Cajueiro	.....	.....	1,972	18,344
Porto Murtinho	.....	.....	2,740	3,800
Corumbá	211,994	356,578	255,168	251,396
Total	29,373,438	27,474,278	29,318,655	28,792,206

CEARA RUBBER ("MANICOBA").

PORTS.	1901.	1902.	1903.	1904.
Pará	2,050	2,402	950	2,430
Maranhão	3,881	.....	27,308	11,471
Ilha do Cajueiro	164,882	362,691	632,858	503,871
Ceará	232,607	268,943	517,824	668,809
Cabedello	.....	.....	.....	1,923
Pernambuco	42,900	24,215	41,333	97,556
Maceió	.....	.....	.....	180
Bahia	23,676	143,041	496,224	939,157
Rio de Janeiro	.....	.....	5,397	680
Santos	2,921	.....	.....	.....
Natal	.....	6,096	.....	.....
Total	472,917	807,388	1,721,894	2,216,077

MANGABEIRA RUBBER.

PORTS.	1901.	1902.	1903.	1904.
Pará	478	249	1,896	541
Maranhão	9,047	11,319	3,214	6,301
Ilha do Cajueiro	58,037	16,424	28,100	35,316
Ceará	436	226	3,996	6,935
Cabedello	704	.....	15,354	22,863
Pernambuco	81,391	96,456	97,849	85,034
Maceió	80	519	11,543	10,420
Bahia	170,094	174,922	355,291	415,579
Rio de Janeiro	26,853	11,563	43,457	85,195
Santos	35,406	12,473	62,588	128,991
Porto Alegre	.....	.....	.....	350
Paranaguá	3,198	.....	.....	.....
Porto Murtinho	.....	.....	400	1,300
Corumbá	28,864	26,043	37,893	56,383
Total	394,588	350,194	661,581	855,208
Grand Total	30,240,943	28,631,860	31,702,130	31,863,491

BRAZILIAN RUBBER EXPORTS, BY PORTS.

	1901.	1902.	1903.	1904.
a Amazon ports	29,163,972	27,120,351	29,061,422	28,508,227
b Atlantic ports	836,113	1,128,888	2,344,507	3,042,385
c Interior ports	240,858	382,621	296,201	312,879
Total	30,240,943	28,621,860	31,702,130	31,863,491

a Pará, Manáos, and Itacoatiára.
b On the Brazilian coast, from Cabedello south to Santos.
c Corumbá and Porto Murtinho, on the river Paraguay, discharging into the Rio de la Platte, and representing the shipments figuring as exports to Uruguay and Argentina.

DESTINATION OF EXPORTS, 1904.

COUNTRIES.	Pará Rubber.	Manicoba.	Mangabeira.	Total.
United States	15,968,753	624,039	280,580	16,873,372
Great Britain	10,420,532	1,365,218	273,753	12,059,503
France	1,455,060	51,704	23,796	1,530,560
Germany	393,749	174,216	214,805	782,770
Belgium	282,376	900	4,591	287,867
Italy	16,540	.....	.....	16,540
Argentina	37,742	.....	.....	37,742
Uruguay	217,454	.....	57,683	275,137
Total	28,792,206	2,216,077	855,208	31,863,491

THE federal bureau of statistics of Brazil, organized some four years ago under the administration of Mr. J. P. Wileman, editor of *The Brazilian Review* (Rio de Janeiro), has been developed under his charge to a high degree of efficiency, which renders available now commercial statistics more complete and accurate in character, and much more promptly, than at any time in the past. THE INDIA RUBBER WORLD has been favored, by the office referred to, with detailed statistics of the exports, during the calendar year 1904, of India-rubber produced in Brazil, which are summarized in the next column, in connection with the corresponding returns for three years preceding.

Hitherto the statistics available of exports of Brazilian rubber have related mainly to the output from the Amazon, only fragmentary details coming now and then from the Atlantic ports south of Pará. In any comparison of the present figures with the statistics issued from Pará, it should be kept in mind that the latter embrace all rubber exported from the Amazon, whatever the source, whereas Mr. Wileman's reports relate solely to rubber produced in Brazil.

Without going into detailed comparisons it may be said that various sections of the Rio tables agree as closely with figures hitherto accepted in the trade as credible as could be expected in the case of returns compiled on different systems and, in a measure, from independent sources. This comment, by the way, is made with a view to calling attention to the growing completeness and trustworthiness of statistics relating to crude rubber the world over. This is a matter of importance in connection with the market prices of crude rubber at any time, and all the more so in the present era of extreme high cost of this material.

An analysis of the accompanying figures suggests the following points:

1. Brazil's production of rubber during four years has shown a slight increase—from 30,240 to 31,863 tons.

2. The output of "Pará" rubber (including a small amount of Caucho) has declined—from 29,373 to 28,792 tons.

3. The net increase has been due mainly to "Ceará" rubber—from 472 to 2216 tons.

4. The Amazon ports show a decrease—from 29,163 to 28,508 tons.

5. The southern Atlantic ports (hitherto unimportant as regards rubber) show a considerable increase—from 836 to 3042 tons.

6. It must be evident, from the preceding figures, that any increase in the output of rubber from the Amazon during the past four years has been due to an increased production in other countries than Brazil—that is, Bolivia and Peru—and as shown in THE INDIA RUBBER WORLD of May 1, 1905 [page 260], the percentage of "Caucho" in the yearly totals is becoming larger rather than smaller.

7. The table gives color to the hope that some of the Brazilian states south of the Amazon valley proper may yet become rubber producers to an important extent, including the production of the so-called "Pará" rubber.

There is to be added to the total in the table herewith the item of Massaarandubu gum (allied to Balata) of which there was exported from Pará 4315 kilograms in 1903 and 2062 in 1904. Last year's exports were distributed thus: Great Britain, 959; France, 776; United States, 327.

RECENT RUBBER PATENTS.

UNITED STATES OF AMERICA.

ISSUED MAY 2, 1905.

NO. 788,520. Hand stamp. F. W. Collins, New York city.

788,568. Machine for applying nipples to hose. H. H. Welsh, Jr., Wilmerding, Pa., assignor to The Westinghouse Air Brake Co.

788,569. Machine for applying hose to couplings. *Same.*

788,577. Veterinary injector. G. B. Blackman, Chattanooga, Tenn.

788,600. Hose coupling. T. C. Rogers, Sistersville, W. Va.

788,710. Vehicle tire. [Pneumatic.] P. E. Doolittle, Toronto, Canada.

788,711. Vehicle tire. *Same.*

788,757. Atomizer. H. C. Deeks, Paterson, N. J.

788,765. Pneumatic tire. C. S. Frank, Epworth, Iowa.

788,769. Packing. E. D. Harsen, assignor to himself and C. Leedham, both New York city.

788,824. Resilient vehicle tire. G. B. Dryden, Chicago.

788,910. Billiard cue. [A cue comprising a cylinder, a cue stick operating therein, a rigid deflected connecting portion at the butt end of the cylinder, and an air compressor and tube connecting the same with the deflected connecting section.] C. S. Jones, Indianapolis, Ind.

788,910.

788,968. Machine for applying clips to hose. W. A. Walker, Baltimore.

788,969. Machine for applying clips to hose. *Same.*

788,983. Armor for pneumatic tires. R. Wright. Cleveland, Ohio.

788,996. Elastic stocking. W. Böttger, Jr., Apolda, Germany, assignor of two thirds to A. Lehrich, Berlin, Germany, and W. Dobermann, Schenectady, N. Y.

788,997. Method of making elastic knitted fabrics. *Same.*

789,024. Automatic tire charging pump. J. M. Hibbard and A. C. McCord, Chicago.

789,089. Reversible heel attachment. C. O. Frank, assignor of one-half to W. N. Harper, both Port Huron, Mich.

789,092. Syringe. G. A. Hulett, Ann Arbor, Mich.

789,118. Composite boot or shoe. [Leather upper and rubber sole.] G. F. Butterfield, assignor to G. I. Butterfield, both of Boston.

ISSUED MAY 9, 1905.

789,411. Piston rod packing. A. W. Chesterton, Boston.

789,145. Fireman's uniform [including a respirator]. J. Derx, St. Louis.

789,412. Wheel tire. J. S. Cushing, Norwood, Mass.

789,428. Life preserver [comprising a glove and sleeve for the forearm]. T. J. Hruby and T. J. Jirik, Chicago.

789,464. Rubber tire setting machine. E. B. Tragler and W. R. Harris, Akron, Ohio; Harris assignor to Tragler.

789,510. Tip for chair legs, etc. G. R. Stetson, New Bedford, Mass.

789,532. Fountain pen. D. F. Gallagher, New York city.

789,564. Vehicle tire. T. W. Ranson, Jr., Cleveland, Ohio.

789,606. Tire. M. S. Gordon, Austin, Tex.

789,621. Overshoe. C. P. Mattewson and C. W. Schell, Cleveland, Ohio.

789,651. Electrical conductor. C. L. Burlingham and W. J. Burton, Chicago; assignors to Burton and J. M. Burlingham.

789,652. Switchboard cord. W. J. Burton, Chicago, assignor of one-half to J. M. Burlingham.

789,686. Device for waving the hair. Mabel G. Dunlap, New Rochelle, N. Y., assignor of one-half to Frank Moss, New York city.

789,689. Hose coupling. E. H. Gold, Chicago.

ISSUED MAY, 16, 1905.

789,718. Machine for applying adhesive or other coatings to sheets. J. P. Curtis, Everett, Mass., assignor to United Shoe Machinery Co.

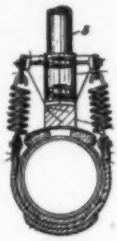
789,890. Rubber stamp. J. F. Tenney, Chicago.

789,931. Tool for repairing pneumatic tubing. E. F. Pawasarat, Sheboygan, Wis.

789,937. Rubber tire fastening for wheels. G. T. Reed, assignor of one-third to A. H. Belmschla, both of Baltimore.

789,948. Armored flexible tubing. E. T. Williams, Duluth, Minn.

789,986. Pneumatic tire shield. J. Marsden, San Francisco.



789,986.

790,033. Process of making dress shields. T. Davis, New York city.

790,051. Breast pump. H. H. Halstead, assignor of one-half to S. L. DeGarmo, Poughkeepsie, N. Y.

790,057. Respirator or inhaler. J. L. Hively, Elkhart, Ind.

790,101. Fountain pen. J. Blair, Brooklyn, N. Y.

790,102. Automatic setter for air brakes. W. H. Brooks, West Point, N. Y.

790,114. Vehicle tire fastener. A. L. Dixon, Buffalo, N. Y.

790,176. Hose drying device. C. M. Bowman, assignor to The Rotary Fire Hose Co., both Lebanon, Pa.

790,237. Nose guard. F. A. Wilson, Jeannette, Pa.

790,252. Golf ball. L. J. Du Mahaut, assignor to L. J. Du Mahaut Co., both New York city.

Trade Mark.

883. Rubber reclaimed from waste rubber. The Alkali Rubber Co., Akron, Ohio. *Essential feature.*—The word ALKALI on three rubber leaves arranged in *fleur de-lis* fashion.

ISSUED MAY 23, 1905.

790,279. Pneumatic tire [with puncture preventing band]. R. Bellingham and J. Bloomfield, Beccles, England.

790,282. Packing. A. C. Brantingham, Toledo, Ohio.

790,318. Atomizer. W. Sams, Chicago.

790,398. Process of constructing golf balls. F. H. Richards, Hartford, Conn., assignor to Perfect Golf Ball Co.

790,404. Tire for vehicles [comprising a series of resilient annular tubes tangent one to another and arranged concentrically around a common central tube and tubes lashed together at intervals throughout the circumference thereof]. G. S. Squires, Boston.

790,404.

790,491. Mold for making rubber balloon bags. H. B. Faber and H. E. Seal, New York city, assignors to Rubber Balloon Co. of America.

790,558 Composite boot or shoe. G F. Butterfield, Boston, assignor to G. I. Butterfield.

790,596. Fountain pen. F. E. Shaw, Evart, Mich.

790,638. Hose coupling. J. F. Foy and J. Clark, Lock No. 3, Pa.

790,646. Tire [pneumatic]. F. Mesinger, New York city.

790,660. Toy. O. A. Prior, assignor to J. C. Stuetzer, Detroit, Mich.

790,682. Life preserver. S. Friedman, assignor of $\frac{49}{100}$ to H. Moscovitch, both Paterson, N. J.

790,685. Hose coupling. M. Hendricks, Benwood, W. Va.

790,742. Vehicle tire. T. R. Palmer, Erie, Pa.

790,874. Fire plug hose hitch. J. Donovan, Braddock; H. McGrory, Wilkinsburg; and G. J. Vogel, Pittsburgh, Pa.; assignors to sundry persons.

Trade Marks.

1619. Rubber boots and shoes. Lambertville Rubber Co., Lambertville, N. J. *Essential feature* —The words TOP SAWYER.

1621. Rubber balls. Lambertville Rubber Co., Lambertville, N. J. *Essential feature.*—The hyphenated word HIGH-FLYER

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1904.

* *Denotes Patents for American Inventions.*

[ABSTRACTED IN THE OFFICIAL JOURNAL, APRIL 19, 1905.]

* 28,159 (1903). Pen holder. J. G. Lorrain, London. (B. B. Goldsmith, New York.)

* 28,167 (1903). Hose coupling. R. C. Scruggs, Birmingham, Alabama.

28,233 (1903). Elastic tire. E. Gregg and T. H. Hirst, Birmingham.

28,322 (1903). Vehicle wheel [rendered resilient by the application of rubber blocks to the inner ends of the spokes]. G. H. Painter and G. Pittman, Camberwell, London.

28,323 (1903), Valve for air cushions. J. E. Morton, Portsmouth.

*28,353 (1903). Apparatus for vulcanizing India-rubber. A. O. Bourn, Bristol, Rhode Island.

28,391 (1903). Tooth brush [through which water is forced by means of a rubber bulb]. A. Schmid, Paris, France.

*28,450 (1903). Flexible bath brush [having teeth through which water may be made to flow]. W. Fairweather, London. (Knickerbocker Manufacturing Co., Chicago, Ill.)

28,487 (1903). Chrome leather cover for pneumatic tires. T. Houdan, Verviers, Belgium.

28,500 (1903). Solid rubber tire [secured to a rim by inwardly curving flanges]. J. E. Hopkinson and J. E. Hopkinson & Co., Para Rubber Mills, West Drayton, Middlesex.

28,502 (1903). Suction dust extractor. G. Simpson and W. J. Burton, Richmond, Victoria, Australia.

28,628 (1903). Hand stamp. W. H. Winnett, Manchester.

28,705 (1903). Revolvuble pad [for boot heels and crutch tips]. A. C. Williams, Tottenham.

28,729 (1903). Pneumatic tire [with anti-slipping metallic strips]. H. David, Paris, France.

*28,745 (1903). Solid rubber tire [with means for securing same]. J. A. Swinehart, Akron, Ohio.

[ABSTRACTED IN THE OFFICIAL JOURNAL, APRIL 27, 1905.]

20 (1904). Rubber faced lift valve. A. Ottewell, H. Land, and J. Smith & Co. (Derby), Derby.

*83 (1904). Detachable flange for wheels having pneumatic tires. J. B. McMullen, Ellicott City, Maryland.

90 (1904). Repair strip for pneumatic tire. A. J. Boult, London. (Communicated from Paris, France.)

207 (1904). Boot heel and sole. C. Norwood, London.

269 (1904). Heel protector. E. G. Byard and W. Wyatt, London.

289 (1904). Hose coupling. J. Marks, Davenport, New Zealand.

*298 (1904). Device for the inflation of vehicle tires while the wheels are in motion. C. Mercader, Pittsburgh, Pennsylvania.

301 (1904). Heel lift. H. A. Silver, London.

348 (1904). Heel protector. O. Isherwood, Patricroft, Lancashire.

*356 (1904) Resilient tire. R. A. Kent, Chicago, Illinois.

374 (1904). Tennis ball. C. H. Gray, Silvertown, Essex.

[ABSTRACTED IN THE OFFICIAL JOURNAL, MAY 3, 1905.]

525 (1904). Fabric for tire tread. C. Joly and R. Boucher, London.

537 (1904). Valve for foot balls and the like [formed of a collapsible rubber tube connected to the bladder by vulcanization and strengthened by rubber or canvas strips; the valve is kept closed by the pressure of the air inside of the ball]. Dunlop Rubber Co. and J. V. Worthington, London.

596 (1904). Metallic rim jacket for pneumatic tires. E. Niederhäuser, Cologne, Germany.

601 (1904). Pneumatic tire with segmental tread. W. H. Sewell, Belfast.

*728 (1904) Device for carpet cleaning by means of an air blast. A. Lotz, San Francisco, California.

800 (1904). Pneumatic tire with tread of special fabric. L. Johnstone, Prestwich, Lancashire.

*832 (1904). Time hand stamp. W. F. Bartholomew, New York.

936 (1904). Pneumatic tire [with air tubes in which the rubber is in compression in order to minimize the escape of air if the tube be punctured]. J. Birtwisle, Pendleton,

[ABSTRACTED IN THE OFFICIAL JOURNAL, MAY 10, 1905.]

*965 (1904). Tire. [Solid rubber; with means for securing.] R. M. Connable, Baltimore, Maryland.

1239 (1904). Tire rim with detachable side. P. Uhlig, Dresden, and C. Schubert, Hamburg, Germany.

1260 (1904). Tire. [Formed of a woven or braided wire, over which is a canvas coating and an outer cover of rubber.] S. Miller, London.

1272 (1904). Waterproof bag [for raising sunken objects]. A. J. Boult, London. (L. Cecchi, Genoa, Italy.)

*1290 (1904). Horseshoe pad. C. W. Zaring, New York.

*1291 (1904). Composite frictional tread of wire cloth and rubber. C. W. Zaring, New York.

[NOTE.—The two patents last mentioned relate to inventions illustrated and described in THE INDIA RUBBER WORLD, December 1, 1904—page 85.]

*1384 (1904). Tire. [Solid rubber; secured by one or more wires extending longitudinally through the rubber, said wires being surrounded by coils of smaller wire.] E. F. McArdle, New York.

1454 (1904). Heel protector. T. H. and N. Roberts, Lytham, Lancashire.

1463 (1904). Machine for winding cores of golf balls. R. F. and C. A. Hutchison, Prestwick, Ayrshire.

1522 (1904). Method of waterproofing leather boots. F. J. Crockett, Northampton.

1577 (1904). Pneumatic tire for disc wheels. T. Silverwood, Brighton.

[ABSTRACTED IN THE OFFICIAL JOURNAL, MAY 17, 1905.]

1667 (1904). Pneumatic tire [with puncture preventing bands]. R. Bellingham and J. Bloomfield, Beccles, Suffolk.

1712 (1904). Golf ball. R. Appleyard, Silvertown, Essex.

*1781 (1904). Hypodermic syringe. F. Wackenhuth, New York.

*1870 (1904). Vaginal syringe. F. J. Gruss, San Francisco, California.

1889 (1904). Tire. [Solid rubber.] J. P. Higgins, Harringay, Middlesex.

1919 (1904). Pneumatic tire. [Tread studded with rivets to prevent slipping.] T. J. R. Clarkson, Aston Manor, Warwickshire.

1946 (1904). Pneumatic tire [with special means of attachment to the rim]. C. H. Gray, Silvertown, and T. Sloper, Devizes.

1996 (1904). Valve for pneumatic tires. E. Hör and H. Wieser, Nuremberg, Germany.

2135 (1904). Sole protector for athletic shoes. A. Sandeman, London.

PATENTS APPLIED FOR—1905.

Space is given here only to Applications for Patents on Inventions from the United States.

7129. W. A. Lawrence, London. Process of cleaning rubber. April 4.

9054. C. Motz, London. Elastic tire. April 29.

9678. P. M. Justice, London. (Grieb Rubber Co., Trenton, N. J.). Rubber sole for boots. May 8.

9886. I. Tennant, London. Pneumatic tire. May 10.

THE GERMAN EMPIRE.

PATENTS GRANTED.

161,111 (Class 63*d*). Tire rim with detachable flange. Vereinigte Gummiwaaren-Fabriken, Harburg-Wien. May 3.

161,288 (Cl. 63*e*). Attachment for motor tires. Mitteldeutsche Gummiwaaren-Fabrik, Frankfurt a/M. May 10.

161,289 (Cl. 63*e*). Pneumatic tire wirh segmental tread. E. Niederhäuser, Cologne. May 10.

161,435 (Cl. 63*e*). Pneumatic tire with segmental tread. C. A. Breckelsberg, Düsseldorf. May 17.

DESIGN PATENTS GRANTED [GEBRAUCHSMUSTER.]

248,395 (Class 30*k*). Syringe. Thuringer Gas-Instrumenten Fabrik Luisenthal (Thuringen). April 27.

248,396 (Cl. 30*k*). Syringe. *Same.* April 27.

248,027 (Cl. 37*d*). Weather strip. A. Schwarze, Brackwede. April 27.

248,300 (Cl. 47*f*). Tightening device for rubber cover. S. Herz, Berlin. April 27.

247,943 (Cl. 63*e*). Cycle tire tread. H. Winkle, Oberhauser. April 27.

248,012 (Cl. 64*b*). Hard and soft rubber bottle cleaning device. O. Berthold, Berlin. April 27.

248,037 (Cl. 71*a*). Boot with elastic goring. F. Kriz, Leipzig. April 27.

248,385 (Cl. 77*c*). Cone with rubber ball. H. Kolmorgen, Kiel. April 27.

248,982 (Cl. 17*b*). Holder for rubber type. O. Engau, Laubegast. May 3.

248,527 (Cl. 30*k*). Vaginal syringe. H. A. Raysan, Cassell. May 3.

249,091 (Cl. 47*d*). Rubber scrap. Rubber strap. Allgemeine Elektricitäts-Gesellschaft. Berlin. May 3.

249,072 (Cl. 47*g*). Automatic closing faucet with rubber attachment. Burmeister & Wenken, Hamburg. May 3.

248,936 (Cl. 57*a*). Rubber band for picture postal cards. M. Junger, Bernau. May 3.

248,594 (Cl. 63*e*). Tire inner tube. R. Fleischer, Minden. May 3.

249,083 (Cl. 63*e*). Tire. C. Matthern, Altona. May 3.

248,692 (Cl. 64*a*). Bottle stopper. A. Albrecht, Waldshut. May 3.

248,532 (Cl. 64*c*). Rubber ring for cask bung. R. Baeger, Ehrenberg. May 3.

248,697 (Cl. 64*c*). Spigot with rubber valve. A. Babl, Frankfurt a/M. May 3.

248,884 (Cl. 77*a*). Exerciser. Vereinigte Gummiwaaren-Fabriken, Harburg-Wien. May 3.

248,768 (Cl. 77*a*). Gymnastic apparatus. Wilhelm Anhalt, Limited. Ostseebad, Kolberg. May 3.

249,493 (Cl. 3*b*). Suspender. E. Heinrich, Cologne. May 3.

249,198 (Cl. 19*a*). Insulating plate. F. Horn, Berlin. May 10.

248,355 (Cl. 30*g*). Nursing bottle. Prager Gummi-Fabrik, Vysocan, Bohemia. May 10.

248,459 (Cl. 30*g*). Teething ring. *Same.* May 10.

248,555 (Cl. 30*g*). Baby pacifier. *Same.* May 10.

249,242 (Cl. 63*c*). Anti slipping device for solid rubber tires. H. Feller, Gotha. May 10.

249,518 (Cl. 63*c*). Solid rubber tire. *Same.* May 10.

249,514 (Cl. 64*a*). Non leaking vessel closure. Gummi-Werke "Elbe" A.-G., Piesteritz. May 10.

249,476 (Cl. 71*a*). Stiffening for rubber shoes. A. Schwarz, Breslau. May 10.

249,768 (Cl. 3*b*). Necktie holder. E. Pietsch, Dresden. May 17.

249,891 (Cl. 3*b*). Rubber-taffeta bag. Frau Emsy Ackerby-Klau, Berlin. May 17.

249,366 (Cl. 63*c*). Anti-slipping cover for pneumatic tires. A. Heimstaedt, Rudolstadt. May 17.

249,831 (Cl. 63*c*). Pneumatic tire cover. A. von Lüde, Frankfurt o/M. May 17.

249,940 (Cl. 63*c*). Solid rubber tire. H. Feller, Gotha. May 17.

250,129 (Cl. 64*a*). Rubber ring for meat jars. J. J. Schlichting, Marne. May 17.

249,985 (Cl. 77*f*). Joint for rubber figures. Ungarische Gummiwaaren-Fabrik, Budapest. May 17.

250,017 (Cl. 77*f*). Toy air pump. O. Michells, Rixdorf. May 17.

PATENTS APPLIED FOR.

18,898 (Class 63*c*). Solid rubber tire. James A. Swinehart, Akron, United States. April 19.

9,558 (Cl. 63*c*). Elastic tire. Charles Henry John Chetwynd Talbot, Earl of Shrewsbury and Talbot, London, England. April 19.

19,240 (Cl. 39*a*). Inflater for rubber casings. L. Fortura, Ginnheim. April 27.

26,454 (Cl. 63*c*). Tool for mounting tire treads. Michelin & Cie., Clermont-Ferrand, France. April 27.

26,567 (Cl. 63*c*). Tire. C. Michler, Cologne. April 27.

21,182 (Cl. 70*c*). Inkstand with elastic well. Y. H. K. Weilin, Helsingfors, Finland. May 3.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION).

348,846 (Oct. 28, 1904). Société Renard. Wooden and rubber heels for shoes.

349,039 (Dec. 8). Fornier de Savignac. Segmental elastic tire.

349,061 (March 8). E. L. C. Roussier. Anti skidding tire protector.

349,063 (Dec. 17). H. A. Salmer. Pneumatic tire.

349,115 (Dec. 1). Van der Stickelen. Wheel tire.

349,153 (Dec. 19). G. Duvivier. Elastic tire.

349,164 (March 11). E. Aurange. Method of attaching India-rubber to the feet of animals to prevent slipping.

349,185 (Dec. 14). W. K. d'Arcy. Tire.

349,210 (Dec. 19). P. D. Hall. Wheel tire.

349,220 (Dec. 20). E. Lacouture. Pneumatic tire with wide tread.

349,199 (Dec. 17). C. E. Julien. Anti skidding and unburstible pneumatic tire with detachable tread.

349,112 (Nov. 25). L. E. Petersen. Process for reclaiming rubber.

349,162 (Dec. 19). M. Marx. Process for the extraction of Caoutchouc from plants.

349,295 (Dec. 10). F. Woodgates. Material for repairing pneumatic tires.

349,331 (Dec. 22). P. Prache. Truncated elastic washer and its application for deadening vibration, in vehicle wheels.

349 338 (Dec. 22). A. Catala. Pneumatic tire.

349,363 (Dec, 15). de Fleury. Hydro-pneumatic tire.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Counseil, 16 avenue de Villiers, Paris, at 50 cents each, post paid.]

RUBBER CEMENT CANS.

A DEVICE which apparently should possess an interest for many branches of the rubber industry is the patented cement pail used in leather shoe factories for applying rubber cements, great quantities of which are used for shoe channelling, and to the manufacture of which several large plants are devoted. The practice of carrying cements in ordinary tin receptacles is not only wasteful, but is more or less dangerous, because of their evaporative and inflammable nature. A fire-

KRIEG CEMENT CAN.

proof and non-evaporating cement can made by the J. K. Krieg Co. (New York) is referred to as affording a safe and most economical method of keeping cement. This can is made of cast iron and has a mouth fitted with a cover of iron, into which the cement flows almost steadily, thereby preventing the accumulation of dirt and sediment, and obviating the tendency to harden. This can is fitted with a receptacle for water in which the brush may be kept soft when not in use. It is made in 1 gallon and 3 quart sizes. Another cement can of a new and desirable type, and already in wide request, is that manufactured by the Ross-Moyer Co. (Cincinnati). It is so designed that the orifice from which the cement is taken by the brush, while sufficiently large for the purpose, offers only a very small surface for evaporation, and when not in use the opening is closed by means of a clamp, which renders evaporation or ignition impossible. This can is made in three sizes, holding 1½ pints, 2 quarts, and 1 gallon.

ROSS-MOYER CEMENT CAN.

CHICLE.—While Mexico continues to be the principal source of supplies of this gum, there is a considerable export from British Honduras. The latest official report for that colony gives the amounts shipped [in pounds avoirdupois] for the past nine years as follows:

1895.....	105,478	1898.....	255,263	1901.....	136,391
1896.....	925.199	1899.....	260,448	1902.....	252,933
1897.....	255.945	1900.	260,848	1903.....	409,508

From the amounts credited to British Honduras in the returns published at Washington it appears that the principal consumption of this product, as with that from Mexico, is in the United States. Part of the British Honduras Chicle is exported direct to Canada, and thence to the United States.

NEWS OF THE AMERICAN RUBBER TRADE.

THE NEW RUBBER FACTORY AT DAYTON, OHIO.

THE Dayton Rubber Manufacturing Co., mentioned in the last issue of this Journal as having been incorporated to acquire the factory of the Dayton Rubber Co., which went into liquidation without having begun to make goods, have been organized by the election of the following officers:

President—E. P. HOOVEN, Xenia, Ohio.
Vice President—J. C. HOOVEN, Hamilton, Ohio.
Secretary and Treasurer.—CLAUDE C. HOOVEN, Dayton, Ohio.
Additional Directors.—C. E. HEISER and C. O. RICHTER.

J. C. Hooven is president and C. O. Richter secretary of The Hooven, Owens, Rentschler Co., of Hamilton. Mr. Heiser, another director, is president of the Second National Bank of Hamilton. The new company are capitalized at $150,000, of which $100,000 is understood to be paid in. The company expect to begin operations by July 1, making a general line of mechanical rubber goods. Some additions will be made to the plant just acquired, besides which a reclaiming plant will be established.

A NEW RUBBER RECLAIMING COMPANY.

APPLICATION for a charter under the laws of Pennsylvania has been made by The S. & L. Rubber Co., who have acquired premises at Chester, Pennsylvania, for the purpose of reclaiming rubber from old boots and shoes, and expect to be able to begin supplying their product by the end of the present month. The only subscribers to the capital stock of the company are James M. Stotesbury and Joel H. Leeds. Mr. Stotesbury has been identified with rubber reclaiming for a number of years. In 1881 the acid process of reclaiming was taken up by his firm of J. M. Stotesbury & Co., which subsequently became the Philadelphia Rubber Works. Mr. Leeds was until recently superintendent of the Philadelphia Rubber Works, which position he filled for 18 years. Mr. Leeds is an expert manufacturer, and Mr. Stotesbury widely known in the trade in connection with the marketing of reclaimed rubber.

THE CINCINNATI RUBBER MANUFACTURING CO.

THE officials of this new company, formed to acquire the rubber department of the Whitman & Barnes Manufacturing Co. (Akron, Ohio), hope to be able to occupy early in August the model plant now being erected in Norwood, a manufacturing suburb of Cincinnati, on the line of the Baltimore and Ohio Southwestern railroad. The factory, which is of modern mill construction, will consist of 8 separate buildings, arranged in the form of the letter L and contain a floor area of 90,000 square feet. Plans have been prepared with a view to the addition later of another wing. The power equipment embraces a battery of boilers of 800 HP. The mill room is to be driven by a direct type Corliss engine of 400 HP. One 150 kilowatt electric generator is to be driven by a 200 HP. Corliss engine. A portion of the plant will be run by small individual motors. As soon as the buildings are ready for occupancy the manufacturing plant now in operation at Akron will be moved to Norwood. The general management, as already reported, will devolve upon Mr. W. G. Brown, who has been connected for some years past with Messrs. Whitman & Barnes. The president of the company and one of the largest shareholders is Dr. J. M. Crawford, who represented the United States as consul general at St. Petersburg for 10 years, ending in 1896, and wrote a book on Russia, having made a close study of the people and the economic and political conditions there. Later he went into business in Cincinnati, and is now president of the Smith & Nixon Piano Manufacturing Co., three banks, and a coal mining company, in addition to being a director in several other financial and industrial enterprises and vice president of the Cincinnati Business Men's Club.

A REMOVAL IN THE CHICAGO TRADE.

THE Boston Woven Hose and Rubber Co. report that the increase in their business in the territory of which Chicago is the center has rendered it necessary to have more space. They have, therefore, moved their Chicago headquarters to Nos. 145-149 West Lake street, where they occupy the entire building of three floors and a basement, comprising about 20,000 square feet of floor area. The building is entirely new, having been finished with special reference to its present use, and is held under a long lease. The location with reference to incoming and outgoing carload shipments is particularly desirable, and the move is one which the company are already very much pleased with. Mr. E. H. Huxley is in charge as manager.

THE CANADIAN RUBBER CO. OF MONTREAL, LIMITED.

WHEN the work already commenced on the new factories of this company at Papineau avenue and Notre Dame street has been completed, this latest addition to the already notable plant of the company will form a distinct ornament to Papineau avenue, as several buildings now on the premises will be torn down to make room for new buildings of more modern design and improved appearance. New roofs will be placed over the existing factory buildings, and other marked improvements made. All the contemplated improvements, it is anticipated, will be completed by the end of 1906.

CATASAUQUA RUBBER CO. OF PENNSYLVANIA.

THE INDIA RUBBER WORLD is advised that the company above named, operating at Catasauqua, Pa., are in no way affected by the appointment of a receiver by the United States courts for the Catasauqua Rubber Co., incorporated July 21, 1904, under the laws of the District of Columbia, said receiver being appointed on the application of William MacDonald, a share holder in the last named corporation. The business was reorganized some months ago and a Pennsylvania charter obtained, under date of February 16, 1905, the assets of the old company being acquired by the new.

UNITED SHOE MACHINERY CORPORATION.

ARTICLES of incorporation of the above named company were filed in the office of the secretary of state of New Jersey on May 2, by John Reynolds, William Berdan, and Frank Bledhill, all giving Paterson, N. J., as their address. The authorized capital stock is $50,000,000—in $25 shares, of which $15,000,000 shall be preferred and $35 000,000 common stock. The declared purpose is to make and deal in all forms and classes of machinery and implements used in the manufacture of boots, shoes, and other footwear, either in leather or rubber goods. A circular issued by the new corporation offers to purchase all outstanding shares of the United Shoe Machinery Co. (Boston), which is also a New Jersey corporation, that shall on or before June 29, 1905, be deposited with certain named trust companies, the authorized capital stock of the new company not required for the purposes of this offer to be reserved for future issue for the acquisition of additional properties and

other purposes recited in the articles of incorporation. The United Shoe Machinery Corporation intend to declare quarterly dividends at the rate of 6 per cent. per annum on the preferred shares and at least 8 per cent. on the common stock, the first of such dividends to be paid in October, 1905.

"DIAMOND" TIRES FOR THE GORDON-BENNETT RACES.

ALL the tires to be used on the American cars taking part in the coming Gordon-Bennett cup races, to begin on July 5, have been manufactured by The Diamond Rubber Co. (Akron, Ohio). The Diamond company have despatched to Paris a force of expert tire men, under C. B. Myers, of the office force at Akron, whose duty it will be to take up stations along the route of the races and be in readiness to make prompt repairs or replacements in case any should be necessary.

RUBBERNIT WATERPROOFING CO.

THIS is a company formed to utilize a waterproofing compound invented by C. L. Stewart, of Rutland, Vermont. A factory has been erected at Rutland, and the output includes horse and wagon covers, tents, awnings, dairymen's aprons, and waterproof cloth from sheetings to 10 ounce duck. The waterproofing compound, called "Rubbernit," is claimed by the inventor not to be affected by heat or cold, acids or alkalies. The company is incorporated under Vermont laws with $5000 capital. H. E. Colburn is president; C. L. Stewart, vice president; O. H. Coolidge, secretary and treasurer.

THE SPALDING FACTORY INCORPORATED.

A. G. SPALDING & BROTHERS MANUFACTURING CO. has been incorporated under Massachusetts laws (April 28, 1905), with $100,000 capital to manufacture and deal in athletic goods, their factory being located at Chicopee, Massachusetts. As one of the largest houses in the world dealing in goods of this class the Messrs. Spalding through their stores throughout the United States have long been distributors of an important amount of rubber goods. It is not understood that they purpose entering the rubber industry though the firm have manufactured golf balls for some time past in the factory at Chicopee, and these they will continue to make.

NEW JERSEY CAR SPRING AND RUBBER CO.

THIS company has distributed recently among its many customers for mechanical rubber goods some very handsome souvenir watch fobs. One contains a representation of the trademark used on the company's "Gladiator" belting, surrounded by a wreath. Another of somewhat different form, relates in like manner to their "Red Oak" sheet packing and gaskets.

CONSOLIDATED COTTON DUCK CO.

[See THE INDIA RUBBER WORLD June 1, 1905, page 316.]

ARTICLES of incorporation of the above named company were filed May 30, 1905, with the secretary of state of Delaware, by Albert Neary, Raphael Brill, and Anton J. Ditman, all of New York city. The capital named is $13,000,000. The object is the complete amalgamation of the United States Cotton Duck Corporation and the Mount Vernon-Woodberry Cotton Duck Co.

DRYING RECLAIMED RUBBER.

THE drying of reclaimed rubber is one of the most important steps in the process of reclaiming. The antiquated system of drying by screens has been replaced by the more modern and economical method of first passing the material through an Automatic Continuous Screw Press, which materially reduces the moisture, and then delivering to an Automatic Continuous Steam Heated Air Dryer, from which the material is delivered thoroughly and evenly dried ready to go to the rolls for sheeting. Many of the largest plants both in the United States and abroad have installed this system. It is not only found more economical in labor, fuel, and space required to install, but also produces a vastly higher grade of material. [American Process Co., Nos. 62 64 William street, New York.]

DEFUNCT RUBBER CORPORATIONS.

A RECENT proclamation by the governor of New Jersey declares the charters of certain named corporations under the laws of that state to be void on account of their failure to pay the corporation taxes assessed against them by the state for the year 1902. Following are the names of such concerns as were related to the rubber trade, together with further details in regard to some of them:

American Belting and Packing Co., incorporated February 11, 1901, capital $50,000; maintained an office at No. 35 Warren street, New York, for jobbing rubber goods made in Trenton.

American Golf Ball Co.

Anglo-American Wheel Within Wheel Co. [See reference to the Wheel Within Wheel Co., below.]

Baracoa Rubber Co.

Eagle Rubber Manufacturing Co.

Hird Cushion Tire Co., Providence, R. I., incorporated December 15, 1901, capital $200,000; to exploit a cushion vehicle tire patented by Charles Hird

Munger Vehicle Tire Co., Trenton, incorporated December 15, 1899, capital $600,000; to manufacture tires invented by L. D. Munger.

New York Rubber Tire Co., incorporated April 18, 1900, capital $200,000; had an office at No. 18 South street, New York.

Pneumatic Syndicate Co., incorporated June 6, 1901, capital $120,000; to serve as "the preliminary organization of the American Pneumatic Horse Collar Co."

Punctnot Tire Co., incorporated September 20, 1901, to make non-puncturable tires; capital $1,000,000. Advertised tires for some time from Boston.

Royal Rubber Co., incorporated April 4, 1900, capital $2,500,000; to deal in rubber and rubber products; incorporated by W. Erdman, H. A. Ockershausen, and L. Frankel, of Jersey City.

Union Tire Co.

United States Tire Inflator Co., incorporated May 19, 1901, capital $125,000

Wheel Within Wheel Co. had factory at Hawthorne, N. J., and office in the Park Row building, New York, with Colonel George Pope, president. The wheel had a solid rubber tire on the rim and a pneumatic tire within.

AKRON (OHIO) NOTES.

CHARLES A. MOTZ has been granted new patents in the United States, Canada, England, and France on his solid "clincher" tires. [See THE INDIA RUBER WORLD June 1—page 306]. This time he has patented another fastening appliance or principle in which transverse wires with a circumferential end are used in clinching the tire to the rim. In his patent granted previously, the wires were placed diagonally across the tire. This latter principle Mr. Motz will utilize in manufacturing tires for heavy machines, while for lighter machines the last patent will be used. The molds and machinery for the Motz tire are about completed, and the Buckeye Rubber Co. expect to commence putting out the tire very shortly.

=The Diamond Rubber Co. are having erected a two story brick building, 35×50 feet, to be used as a laboratory. The company have recently made other extensive improvements, including new office quarters. In connection with the latter a restaurant has been installed for the use of the office staff.

=William F. Neubauer, formerly in the drug business in this city, and E. C. Neubauer, who has been with the Goodyear Tire and Rubber Co. for four years, have gone to Jeannette, Pennsylvania, to take positions with the Pennsylvania Rubber Co.

=The Alkali Rubber Co. are adding a two story brick wing on the Jackson street side of their plant to be utilized for offices.

=Warren B. Rood has resigned the position of sundries manager of the Goodyear Tire and Rubber Co. to become connected with the National India Rubber Co. and has removed, with his family, to Bristol, Rhode Island.

THE RUBBER MERGER OPERATIVE.

PURSUANT to the action of the United States Rubber Co. relative to acquiring a controlling interest in the Rubber Goods Manufacturing Co. [See THE INDIA RUBBER WORLD, June 1—page 311], advertisements appeared in the New York newspapers, signed Anthony N. Brady, "syndicate manager," inviting the deposit, with the Central Trust Co. of New York, on or before June 15, 1905, of shares of the Rubber Goods company, with the understanding that shares of the new issues of the United States Rubber Co. should be exchanged for the same, on the basis of the proposals already referred to. Said offer was conditional upon the deposit of at least two thirds in amount of all outstanding stock of the Rubber Goods Manufacturing Co. "After June 15," the advertisements read, "no deposits will be received except in the discretion of the undersigned [Anthony N. Brady], and on such terms as the undersigned may prescribe."——On June 16 it was announced: "One hundred and seventy-six thousand two hundred and forty-seven shares of stock of the Rubber Goods Manufacturing Co. (being more than 67 per cent. of the outstanding share capital) having assented within the time allowed to the plan for exchanging the stock for that of the United States Rubber Co., the same has been declared operative." [The exact number of shares of the Rubber Goods company being 259,931, the number of shares deposited amounts to 67.8 per cent.]——Gossip has been current in Boston that certain mechanical rubber goods factories in New England would likely be acquired by the United States Rubber Co., for one reason, because of the interest in them held by the estate of the late Hon. E. S. Converse, which estate is also largely interested in the United States company. It is authoritatively stated, however, that the Converse estate has liquidated for the most part its former important holdings in the mechanical companies to which the rumors related.——Boston *News Bureau* reports: "President George A. Lewis of the Beacon Falls Rubber Shoe Co. says of the rumor that the United States Rubber Co. now dictates the policy of that company and guarantees 8 per cent. dividends upon that company's stock: 'I wish to deny this report as emphatically as possible. The United States company has not secured control of our company nor does it dictate its policy.'"

NEW ENGLAND RUBBER CLUB.

THE annual summer outing of the New England Rubber Club will be held on July 19, afternoon and evening, at the Country Club, Brookline. The executive committee of the New England Rubber Club carefully examined various shore resorts and out of town places with a view to holding the outing in some one of them but the Country Club, because of its accessibility and its varied attractions, was so much better than anything else that could be secured, that they were unanimous in deciding in favor of it, and were successful in securing it through the influence of Mr. Arthur W. Stedman, vice president of the Club.

THE REPUBLIC RUBBER CO. (YOUNGSTOWN, OHIO.)

THIS company is enlarging its plant to the extent of a new three story building, to be about 75×200 feet. This addition will be of brick and steel, with slate roof, and will be used as a hose department. The enlargement is made in order to enable the company to take care of its increasing business, the existing facilities no longer proving sufficient.

HARTFORD RUBBER WORKS CO.

WORK has been begun upon a two story brick addition, 150×40 feet, to the factory buildings of this company at Hartford, which has been rendered necessary by the marked increase in the business of the company during the past six months This need for additional facilities has developed in spite of the fact that the company of late have been operating the plant at New Brunswick—formerly operated by the India Rubber Co.,—to take care of the increase of business in their mechanical rubber line.

POPE MANUFACTURING CO.

THE factory at Hartford, Connecticut, built by Colonel Albert A. Pope and utilized by him in making the "Columbia" bicycle famous, will be devoted hereafter to the automobile manufacture, and the "Columbia" wheels will be produced at Westfield, Massachusetts, in another of the Pope company's factories. The company's bicycle selling departments are to be further consolidated, all the agents reporting to the Hartford office, and the jobbing trade to be supplied from Chicago.

A NEW CABLE IN THE GULF OF MEXICO.

THE cable steamer *Faraday*, owned by Siemens Brothers & Co. (London), arrived on June 15 at Galveston, Texas, having on board 800 knots of submarine cable, to be laid for the Mexican Telegraph Co. between Galveston and the Mexican port of Coatzacoalcos. The laying of the new cable, which has now been completed, gives the company three lines between the two ports named—the new cable, which is direct, and two lines which touch Vera Cruz *en route*.

HOSE FOR USE ON THE PANAMA CANAL.

THE Boston Woven Hose and Rubber Co. recently were awarded an order for over 32,000 feet of steam, air, and water hose, intended for service on the Panama canal. The greater part of the order was steam hose, this being probably the largest order ever placed for such hose. As evidence of the extensive equipment and splendid organization of the company, it is noted that arrangements were made to produce the entire order, including couplings and fittings, in six working days.

"REPUBLIC" SIDE WIRE TIRES IN CANADA.

THE Canadian Rubber Co. of Montreal, Limited, has purchased exclusive rights for the manufacture and sale in the Dominion of the "Republic" side wire rubber carriage tire, made and controlled in the United States by The Republic Rubber Co. (Youngstown, Ohio). Canadian carriage manufacturers and others, who have been buying the "Republic" tires liberally from the United States, doubtless will welcome the news that they are now to be made in Canada.

NEW INCORPORATIONS.

THE Vant Woud Rubber Co. (New York), June 6, 1905, under New York laws, to manufacture rubber druggists' sundries; capital $20,000. Incorporators: Victoria A. Vant Woud and Henry C. Brewer, Brooklyn, N. Y., and Robert A. Kincaid, Denver, Colorado. The corporation will continue the business conducted under the same name by Victor C. Vant Woud, who died on March 25.

=Inter State Rubber Shoe Co. (Trenton, N. J.), June 7, 1905, under New Jersey laws, to manufacture rubber footwear; capital authorized, $20,000. Incorporators: Benjamin W. Elberson, F. Walton Messler, J. Forman Rose, and Burnham L. Elberson, all of Trenton.

=Commonwealth Rubber Co., June 8, 1905, under Maine laws, to make and deal in rubber goods; capital authorized, $500,000. George H. Allen, president, and Edward T. Fenley, treasurer, both of Portland, Maine

=Goodyear Rubber Goods Co. (Detroit), June 14, 1905, under Michigan laws, to deal in rubber goods; capital, $25,000. Incorporators: S. Frederick Denny, George A. Coffey (Grand Rapids), M. B. Twomey, L. F. Wineman, Frederick Seagrave. Messrs. Denny and Coffey have conducted a retail business hitherto under the style Goodyear Rubber Store.

NEW YORK STOCK EXCHANGE TRANSACTIONS.

UNITED States Rubber Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending May 20	6,400	42¼	37¾	1,898	110	105¼
Week ending May 27	6,400	39½	35⅝	3,050	106	104
Week ending June 3	1,150	39	37½	1,200	105¾	104⅛
Week ending June 10	600	38¾	37	100	104⅛	104
Week ending June 17	800	38⅛	37	1,400	104	102½
Week ending June 24	2,350	38	36⅛	2,700	104⅜	101½

The first trading in the new second preferred shares of the United States Rubber Co. "when issued" was reported on the curb market on June 26, beginning at 69 and rising to 70, in transactions involving 700 shares.

RUBBER Goods Manufacturing Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High	Low.
Week ending May 20	25,250	38	34½	2,050	109	104½
Week ending May 27	10,750	35¼	33½	8 0	103	102
Week ending June 3	3,517	35¼	33½	1,550	105	102
Week ending June 10	3,500	33¾	31⅜	800	101	100
Week ending June 17	6,076	33⅜	31¾	1,980	102	101
Week ending June 24	800	31¼	32	750	101	101

SUMMER SPORTS OF RUBBER MEN.

THE great annual United States Rubber Co. ball game took place at New Dorp, Staten Island, on June 17. This year the opposing teams represented the "Treasurer's Department"—the challenging nine—and "All Other Departments" (including the General Rubber Co.). The game was witnessed by a large number of other employés of the office, and their friends. The players and the runs made were:

TREASURERS.		ALL OTHERS.	
Cantwell, r.f	1	Francis, r.f	5
Daniels, s.s	1	Phipp, s.s	5
Clark, 3b	2	Goodyear, 3b	6
Smith, 2b	2	Brown, 2b	3
Hubbard, 1b	2	Colt, 1b	4
Fox, l.f	2	O'Neill, l.f	6
Driscoll, c	1	Bergman, c	4
Strong, p	2	Guid, p	5
Thompsen, c.f	1	Botzfielder, c.f	4
Total	14	Total	42

=A game of base ball between the employés of the New York Commercial Co. and Poel & Arnold, resulting in a score of 26 to 19 in favor of the former, was played on June 17, on the Colonial Athletic Grounds, Flatbush, New York. The teams were made up as follows:

NEW YORK COMMERCIAL CO.	POEL & ARNOLD.
Barwick, c.	Kelley, c.
McMaster, p.	Goller, p.
Sears, 1 b.	Thomas, 1 b.
Gove, 2 b.	Clark, 2 b.
Case, s. s.	Leslie, s. s.
McClintock, 3 b.	Greenwood, 3 b.
Duffy and Utter, r. f.	Jackson, r. f.
Manchester, c. f.	Oakley, c. f.
Frey, l. f.	Britton, l. f.

Kelley's playing suggested that he was a lineal descendant of "Slide," famous in song and story. The principal "rooting" for the Commercial team was done by Messrs. Betts and Jeffords, who evidently have reduced that feature of the game to a science. The game was witnessed by a bevy of pretty stenographers from the Commercial company's office, who proved enthusiastic "fans."

=The annual picnic of the employés of the Voorhees Rubber Manufacturing Co. will be held on July 1 at Greenville Schuetzen Park, near Hoboken, New Jersey. Handsome prizes have been purchased for the winners in various sporting contests, and the officials of the company are expected to attend, as they have done in the past.

=A baseball team made up of employés of George Borgfeldt & Co. (New York) has been doing good work this season, having won a number of games. The team embraces:

E. Schaefer	c. f.	J. Mauss	1 b.	A. Loesch	3 b.
R. Schaefer	p.	E. Twyeffort	r. f.	W. Haustein	l f.
B. Demmann	c.	H. Kramer	2 b.	F. Roeder	s. s.

Equitable Park, at Sixty-seventh street and West End avenue, New York, has been leased by the team for every Saturday afternoon this summer.

=A baseball match at Naugatuck, Connecticut, on June 14, between nines from the office forces of the Wales-Goodyear Shoe Co. and the Beacon Falls Rubber Shoe Co., was won by the first named by a score of 17 to 9.

THE OHIO RUBBER CO. (CLEVELAND).

THE Ohio Rubber Co. was organized some 20 years ago, and incorporated in 1893 with the late Mr. Louis K. McClymonds as president. "The present staff, Mr. W. E. Byrnes, president for the 3½ years and manager for 7 years; Mr. W. D. Hunt, secretary; Mr. W. E. Crofut, treasurer; and Mr. J. Scott Kerr, manager of the retail store," says the Cleveland *Town Topics*, "can be complimented on giving Cleveland the finest rubber store between New York and Chicago." The Cleveland house has eight road and three city salesmen. A branch house in Cincinnati employs three road salesmen touring through the southern states, while two men canvass the city. The firm have the Ohio agency and are also agents for the adjacent territory of the Mechanical Rubber Co.

TEN MILLION DOLLAR GUAYULE COMPANY.

ARTICLES of incorporation of the Compania Guayulera Mexicana, with $10,000,000 capital authorized, were filed in the office of the secretary of state of New Jersey, on June 22, 1905, by T. W. B. Middleton, R. S. Tully, C. A. Cole, A. S. Garbe, and H. A. Bingham, all of Jersey City. The object is to extract rubber from the Mexican "Guayule" and like shrubs.

TRADE NEWS NOTES.

THE additional $1,000,000 of preferred shares of the Rubber Goods Manufacturing Co., issued in connection with acquiring the whole of the capital stock of Morgan & Wright, Inc., has been admitted to the unlisted department of the New York Stock Exchange.

=Notices have been posted at the two factories of the Woonsocket Rubber Co. that they will be shut down at the close of work on Friday, August 14, for the usual summer vacation, which this year will last for two weeks.

=The Chicago Electric Hose Co. (Wilmington, Delaware), incorporated in 1900, to manufacture rubber hose, advise THE INDIA RUBBER WORLD of the change of their name to Electric Hose and Rubber Co.

=The Beacon Falls Rubber Shoe Co. (Beacon Falls, Conn.) have repaired the damages by fire in their office building, reported in THE INDIA RUBBER WORLD of May 1, and it is now occupied again by the office force.

=Electric Vehicle Co. (Hartford, Connecticut) have lately completed two electric 'buses for "Seeing New York," designed to carry 50 passengers each. They are equipped with 7 inch endless Firestone sidewire tires.

=New York Belting and Packing Co., Limited, issue a neat folder relating to two of their recent products which should appeal to the interest of the mechanical goods trade—"Delta" matting and "Puritan" mats.

=Important contracts for equipment for the new factory of Morgan & Wright (Detroit, Michigan) have been placed with the Dodge Manufacturing Co. (Mishawaka, Indiana). It is stated that 30 railway cars will be required for shipping the first installment of pulleys, shafting, and the like required for the new factory.

=The Massachusetts Chemical Co. have been making important extensions in their plant at Walpole, Massachusetts, including the erection of an extensive separate office building to which their general offices will be transferred from Boston early in July. The Boston selling office will be continued at the present address, No. 200 Summer street. Mr. C. E. Farrington, of this company, has been devoting much study of late to the steam turbine system, which has been adopted at the factory.

=The place of business of the Frazer & Geyer Co., manufacturers of fountain pens, No. 22 Thames street, New York, has been attached by the sheriff, in the suit of Isaac E. Chapman, a former president of the company, on notes aggregating $20,000, with interest. It is stated that the litigation is due to internal dissensions, that there are no trade debts, and that the company will be reorganized.

=Empire Rubber Manufacturing Co. (Trenton, New Jersey) sued in the Mercer county supreme court to recover $6800 from Morris Brothers (Yardville, N. J.) for alleged breach of contract, the complaint relating to the delivery of a certain quantity of cotton duck for use in belting. On June 2 the jury in the case returned a verdict awarding $217.11 to the plaintiff, who, it is understood, will appeal.

=Mr. Edward R. Rice, manager of branch stores of the United States Rubber Co., was master of ceremonies at the Buffalo Art Gallery on the occasion of the recent address by President Eliot, of Harvard University.

=In Chicago, Peabody, Houghteling & Co. have made a loan of $25,000 for five years at 4½ per cent. interest to the Rubber Paint Co., secured by the plant of the latter, 41 × 165 feet, with seven story building, at Nos. 36-38 Boston avenue, and three story building at Nos. 161-163 Van Buren street.

=The Fulton Rubber Type Co. (Elizabeth, New Jersey) include in their production printing outfits for boys, which are referred to as meeting an especially good demand in Spain, They export to many other countries, but mainly goods for more practical business uses.

=A convention of the St. Francis River Improvement Association, devoted to the improvement of the St. Francis river, in Arkansas, was held in Memphis on June 22, under the auspices of the three leading commercial bodies of that city, the invitations being extended in the name of the city. THE INDIA RUBBER WORLD is indebted for an invitation to Mr. H. N. Towner (of Towner & Co., Inc.), a member of the committee on arrangements.

="Advertising for Profit" is the title of a readable booklet issued by the Manufacturers' Advertising Bureau (New York), in relation to their system of taking charge of the advertising of manufacturers in special journals, as organized by Mr. Benjamin R. Western and conducted under his charge for more than a quarter century.

=A patent controlled by B. F. Sturtevant Co. (Boston), has just been issued for a special type of exhaust hood for grinding and polishing wheels. Its special feature consists of a receptacle to catch the particles of solid matter passing from the wheel. The suction being controlled so that it is not quite sufficient to draw them away, these particles fall to the bottom and are there collected, while the practically free air passes through a collector where the last vestige of dust is removed. The receptacle can be readily emptied when it becomes filled, and its use avoids excessive wear on the exhaust fan, piping and collector. The hood is so designed with hinges and clips that the wheel may be readily removed or adjusted to fit the wheel as it wears to a smaller diameter. The outlet is connected to the exhaust fan, and a shield, a swivel plate and an extension slide may be adjusted so as to more fully enclose the wheel and prevent the discharge of particles into the room.

=Peter Matroni, aged 18, employed in the factory of the National India Rubber Co., as a supposed result of brooding over the impending fate of Mrs. Mary Rogers, convicted of murder in Vermont, hanged himself while alone in the room where he worked.

=The American Rubber Reclaiming Co.—W. C. Coleman, manager—has acquired the premises at Rochelle Park, New Jersey, at one time occupied as a reclaiming plant by John B. Romaine, and begun the reclaiming of rubber by the mechanical process. The business of W. C. Coleman Co., dealers in rubber scrap and second hand rubber machinery, has been removed from Setauket, Long Island, to Rochelle Park.

=The aggregate output of the various factories whose product is sold by the United States Rubber Co. is greater at the present time than ever before in their history. Last year most of these factories ran at their maximum capacity, but the present output is considerably in excess of last year, owing to the fact that during the past twelvemonth the facilities of nearly all of these factories have been materially increased.

=M. Norton & Co. (Boston) dealers in waste rubber, suffered $10,000 damages by fire to their place of business at Medford on June 18. It is understood that the loss was covered by insurance.

=The Tennis shoes introduced by the United States Rubber Co. ten or eleven years ago have increased steadily in popularity with every year, the output in some years being over 100 per cent. of the preceding year. At present the factory is running on a larger ticket than ever before in its history, and the 1905 Tennis output will materially exceed the very large output of last year.

=Tyer Rubber Co. (Andover, Massachusetts), following their custom of many years, closed their factory on June 30, for 10 days.

=William Hodgkinson has resigned from the position of superintendent of the factory of the National India Rubber Co. (Bristol, Rhode Island). He had been with the company for 12 years, and during the period when H. H. Shepard was general manager filled the position of assistant general manager.

=Retailers who handle the "Boston" rubbers (and they number somewhere from 30,000 to 40,000) will be well supplied with attractive advertising matter for the coming season, as the company has planned a generous campaign. The pretty little black and red stickers that the retailers are using now are simply the first installment of the Boston Rubber Shoe Co.'s advertising plan.

=A New York newspaper mentions the activity of a woman canvasser as having resulted recently in the sale of about 6000 rubber collars to members of the police force.

=A cablegram was received at the New York office of the United States Rubber Co. on June 24 from Mr. E. H. Paine, their manager of sales, announcing his safe arrival in Europe after a very pleasant voyage.

=The two rubber factories at Naugatuck, Connecticut, will be closed about the middle of July—the Goodyear Glove company for two weeks and the Wales-Goodyear for a longer period, in order to install a new engine.

=The Wales-Goodyear Shoe Co. have always been famous for the care with which their goods are made. This is true of

the whole line, but it is particularly noticeable in the "Women's Empress," which differs from the gaiters made by other companies in being absolutely seamless. This quality not only greatly enhances its appearance, but, of course, ensures a better fit.

=Boston Belting Co. will pay the regular quarterly dividend (No. 143) of $2 per share, on July 1, to stockholders of record June 15.

=Daniel O. Arnold, secretary and treasurer of the rubber jobbing house of W. H. Salisbury & Co. (Chicago) died of heart disease in Philadelphia on June 21. He was about 55 years of age and had been identified with the Salisbury house for 35 years. The funeral was at Providence, Rhode Island.

=Considering the activity, in the Pacific coast and the Far Eastern rubber goods trade, of Mr. William J. Gorham, president of the Gorham Rubber Co. (San Francisco), it might be supposed that he had no time for any interests outside of business. But he is chairman of the trustees—corresponding to the office of mayor—of the progressive suburban city of Alameda, California, with a population of 18,000. At the annual banquet of the Oakland Board of Trade on May 23, Mr. Gorham was among the speakers (the list including the governor of the state and one of its United States senators), responding with felicity to the toast "Alameda—the Island of the Blessed."

=Messrs. William M. Ivins, and Samuel P. Colt, presidents respectively of the General Rubber Co. and United States Rubber Co., expect to sail for Europe about July 11, it being understood that their business will relate in part to the organization of a purchasing agency for crude rubber in London.

=Aiton Machine Co. (New York), engineers and manufacturers of India-rubber mill machinery, will remove their offices on July 1 from Cortlandt street to No. 126 Liberty street. The company have issued "Bulletin No. 48," relating to a new three roll calender, which rubber manufacturers are invited to apply for.

EXHIBITION OF RAILWAY SUPPLIES.

HOME Rubber Co. (Trenton, New Jersey) was well represented at the extensive exhibition of railway supplies in connection with the annual conventions of the Master Car Builders' Association and the American Railway Master Mechanics' Association, at Manhattan Beach, beginning June 14. The display included air brake hose and steam hose; "N. B. O" packings and "N. B. O." gage glass washers; and a general line of mechanical rubber goods. Messrs. A. R. Foley and J. C. Berrang were in charge.——The exhibition of supplies in general was of the same character as that held at Washington in connection with the International Railway Congress and reported in THE INDIA RUBBER WORLD June 1 [page 314], though fewer rubber manufacturers were directly represented. The exhibition proved of great interest to the generel public, as well as to the large attendance of members of the two associations for whose benefit it was held.

THE HASKELL GOLF BALL SUIT IN ENGLAND.

JUST before the printing of this issue a cabled synopsis comes to hand of the decision of Mr. Justice Buckley in the action of the Haskell Golf Ball Co. *v.* Hutchinson, Main & Co., for alleged infringement of patent, in the High Court of Justice, Chancery division, in London. The hearing began on May 29 and continued for ten days, the reported testimony covering a thousand pages. Plaintiff and defendant were represented by eminent counsel, and the case involved many points of interest to the trade. The justice reserved his decision until after the Whitsuntide vacation. From what is known of it at this writing, the decision upsets the Haskell patent on the testimony of Captain Douglas Stewart, a retired captain in the Royal navy, who claimed prior use of the invention, but all other points are in favor of the plaintiff. The plaintiff on June 28 gave notice of appeal, being advised by counsel that the decision was not warranted in view of the uncorroborated evidence of the witness referred to.

=George M. Conant of Bridgewater, Mass., and Herbert J. Conant of Boston, doing business in Boston as the Conant Rubber Co., with a factory at South Framingham, have filed a petition in bankruptcy. The liabilities are scheduled at $145,326 and the assets at $27,500. The largest creditor is Mary F. Conant of Bridgewater, who holds a note for $37,381.75.

PERSONAL MENTION.

THE INDIA RUBBER WORLD'S correspondent at Akron, Ohio, writes that Mr. Thomas A. Edison is expected in that city this summer, on an overland trip from Orange, New Jersey, to visit Mrs. Edison's mother and other relatives, who live in Akron. The trip is to be made in three automobiles, and one purpose of the long ride is to test a new electric battery which Mr. Edison has invented, and which he believes has the durability and power to carry auto machines over long distances.

=A fishing party which left Providence, Rhode Island, on May 29, for a two weeks' absence, included Colonel Samuel P. Colt, president of the United States Rubber Co.; his brother, Judge Le Baron C. Colt, of the United States court; his son, Russell G. Colt; Walter S. Ballou, president of the Banigan Rubber Co.; Judge Aldrich, of New Hampshire; Dr. Charles F. Peckham, and Mr. Edwin A. Barrows. The party stayed at Colonel Colt's private camp, known as Colt's camp and located at Norcross, on the east branch of the Penobscot river and near the Twin lakes. This camp is a long day's ride from any railroad station or any other mark of civilization, and it is one of the finest fishing grounds in Maine.

=The Hon. Edwin H. Conger, the new ambassador of the United States to Mexico, arrived at Mexico City on June 4, and on the afternoon of the same day at his hotel received a deputation from the Society of the American Colony, headed by Mr. William Vernon Backus, whose election to the presidency of that society was reported in THE INDIA RUBBER WORLD last month. Mr. Backus delivered an address of welcome, to which the ambassador cordially responded.

=Mr. Augustus O. Bourn, Jr., son of the well known president of the Bourn Rubber Co. (Providence, Rhode Island), was graduated from the school of commerce, accounts, and finance of New York University, at the commencement on June 8, receiving the degree of Bachelor of Commercial Science, which is given to men who have pursued a three years' course and are supposed to be educated accountants. Mr. Bourn already held the degree of LL. B. from Columbia University, and has been admitted to the bar.

=Mr. Edward S. Robinson, lately appointed by the governor of New Jersey to be a member of the state board of education, is one of the superintendents of the Rubber and Celluloid Harness Trimmings Co., of Newark.

=Miss Margaret Howe Colman, daughter of Mr. and Mrs. Moses J. Colman, of Arlington, Mass., and Mr. Charles Curtis Beebe, connected with the Boston Woven Hose and Rubber Co., were married at the home of the bride on the evening of June 7. The wedding reception was largely attended, being the most notable social event of the season at Arlington.

GIRL WITH RUBBER PALATE.—Dr. H. E. Harlan, a dentist at Toledo, Ohio, is reported to have made a detachable hard rubber palate for a young woman born with a cleft palate. It is said to work satisfactorily.

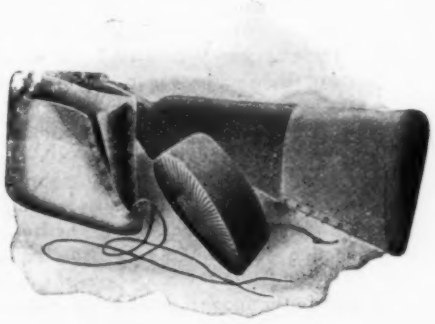
NEW GOODS AND SPECIALTIES IN RUBBER.

BAILEY'S "WON'T SLIP" TIRE BAND.

THE Bailey "Won't Slip" automobile tire cannot properly be referred to as a new article in the trade, except that, in the sense of the constant adaptation to new conditions of the principle involved, whatever merit this form of construction had in the beginning has been enhanced gradually until the tire of to-day marks a wide advance from the first model manufactured under the Bailey patent. The present illustration refers to a tire band made on the "Won't Slip" principle, and designed to be cemented and vulcanized to the tread of any kind of automobile tire—detachable tires of all the standard models or to the single tube tire. A means for the prevention of tires from slipping has been a desideratum with the trade from the date of the first introduction of rubber tires, and while many suggestions have been made in the way of improvement upon the smooth surface tire, none has proved more practical than that of a series of circular studs covered by Mr. Bailey's patent. It is not intended here, however, to go into detail regarding all the merits of this feature, but to point to the convenience to the trade of the arrangements made for supplying tire treads to those who may not need to purchase new tires. The Bailey patents have been taken up on royalty by several of the leading manufacturers of tires, who are now in position to supply either "Won't Slip" tires complete or "Won't Slip" treads. [C. J. Bailey & Co., patentees, No. 22 Bolyston street, Boston.]

WINTER'S PNEUMATIC GUN RECOIL PAD.

THE use of this appliance renders "all guns gentle at the butt end." It is a pure gum inside pad provided with an air chamber, inflated hard or soft at will by means of a soft rubber tube,



affording a perfect cushion and taking up all the recoil of the gun. The laced leather cover protects the pneumatic pad and presents a smooth surface, which does not interfere with bringing the gun into quick position for aim and firing. The cushion fits the gun like a glove and is light in weight and neat in appearance. [The B. F. Goodrich Co., Akron, Ohio.]

GOODRICH CLINCHER TIRE TOOLS.

TOOLS for applying and detaching "clincher" tires are so indispensable to the motorist that new devices in this line deserve mention in connection with novelties in the rubber branch proper. The series of tools illustrated here not only is new but apparently of unusual merit. They reduce the expenditure of both time and exertion necessary in dealing with

a tire and render such work in every way less disagreeable than without their use. The ease of manipulation and quick effectiveness of these tools are due mainly to the curved ends and lips of the steel prodders which are made to fit the edge of the wheel rim and engage the tire in such a way that only a few moves are required to force the tire on or off. A set of these tools includes four pieces illustrated in the following order, counting from the top: (1) Ratchet wrench, (2) small prodder, (3) large prodder, and (4) wheelbrace. [The B. F. Goodrich Co., Akron, Ohio.]

"NOAIR" NON LEAKABLE STOPPERS.

THIS new rubber stopper possesses many advantages, due to the fact that it closes the bottle hermetically. With its use there can be no waste while the stopper is in position and no annoyance such as from leakage in trunks while traveling, and the like. It is also especially desirable for household use, as in medicine closets. The contents of a bottle with the "Noair" stopper cannot evaporate or deteriorate. It is made of pure rubber, specially treated with a view to not affecting any liquid injuriously. It is made in six sizes, with tapering plug, so that a wide range of bottles can be fitted, maroon color, and packed in neat boxes, containing a gross each. [New York Belting and Packing Co., Limited.]

"P. AND W." RUBBER PRESERVATIVE.

AT certain important exhibitions of railway supplies of late no small attention has been attracted to a material designed to prevent the cracking of rubber goods and the deterioration due to climatic changes and the like, especially where vibration is pronounced, as in the case of air brake and pneumatic tool hose. The material referred to is known as the "P. and W." rubber

preservative, which is the result of practical experience, having been in use for more than three years on an important trunk line, since which time it has been adopted on a number of railways. The material is referred to as being easily applied, while the cost is extremely moderate, the expense for a section of air brake hose averaging less than one cent. [G. S. Wood, Room 209, Great Northern building, Chicago.]

* * *

PEOPLE who have pieces of fine china and cut glass which they like to display on sideboard and buffet, will be pleased with the new rubber covered stands which come for that purpose. They are shaped like the ordinary wire stands, but are covered with fine rubber tubing, the idea being to protect the edges of the glass or china, which under ordinary circumstances are liable to become chipped when thus displayed.

HIGH VALUATIONS OF MEXICAN RUBBER.

THE well known rubber brokerage firm of Lewis & Peat (London), whose valuations of Ceylon plantation rubber have been widely credited, have written the following letter, quoting estimates on specially prepared rubber from *Castilloa elastica* trees 6½ years old, under cultivation on "La Esperanza" plantation, in Mexico. The equivalent prices in United States (gold) currency have been added by THE INDIA RUBBER WORLD. Brazilian Pará rubber was quoted about the same time as high as 5*s.* 8½*d.* [=$1.38⅞] for hard fine, and Ceylon plantation "Pará" sold at the London auction on May 26 at 6*s.* 9¼*d.* [=$1.64¼]:

LEWIS & PEAT, 6, Mincing Lane,
LONDON, E. C., 29th May, 1905.

GEO. CULLEN PEARSON, Esqr.,
6, Queen Street place, E. C.

SIR: We have the pleasure to own the receipt of your favour of the 26th instant, with samples of India-rubber which we have carefully examined, and beg to report upon same as follows:

		Value about per lb.
1*a.*	Fine clean black biscuit, well prepared, but a little brittle and short	4*s.* 6*d.* [=$1.09½]
2*a.*	Ditto, but biscuit a little thinner and cleaner	4*s.* 6*d.* [=$1.09½]
3*a.*	Good clean pale biscuit, mottled-colour in places	5*s.* 0*d.* [=$1.21⅝]
4*b.*	Fine thin darkish biscuit, strong, clean, and well prepared	5*s.* 6*d.* [=$1.33¾] / 6*s.* 0*d.* [=$1.46]
5*b* and 6*b.*	Small thick scrappy biscuits mixed, pale and dark in colour, probably rejections from above	4*s.* 6*d.* [=$1.09½]
7.	Fine thin pale biscuit, well prepared, clear, clean, strong and elastic	6*s.* 3*d.* [=$1.52]

All the foregoing are good saleable quantities, especially Nos. 4*b.* and 7. There is a good growing demand for plantation grown Rubber, so long as it is sent home *pure* and in good condition. Damp and heat produce stickiness which is fatal to any raw rubber. Yours faithfully,

[Signed] LEWIS & PEAT.

STATE OF THE WEATHER IN CEARA.

[FROM "FOLHA DO NORTE" (PARA), MAY 18.]

A FORTALEZA newspaper says that after a period of long continued drought, which appalled the inhabitants of Ceará, rain again commenced to fall during a severe storm on April 23, during which some bolts of lightning struck, happily without causing severe accidents.

The rain gage in Formosa street registered during this rainfall, which lasted seven hours, 85 millimeters of rain, or a total of 186 during the entire month of April, in which there was very little, there having been only 11 days on which rain fell, and consequently only slight hope of a continuance of the winter season this year.

During 1904, rain fell on 17 days during the same month, the precipitation being 133 millimeters. May, moreover, set in with discouraging weather, the heat being very severe.

Between January 1 and April 30 last, there were 47 days on which rain fell, the rain gage recording a total rainfall of 824 millimeters [=32⅝ inches], against 40 rainy days with a total rainfall of 636 millimeters [=25 inches] during the same period of 1904.

[NOTE.—The significance of weather conditions in the Brazilian state of Ceará is that a severe drought there drives hosts of the Cearenses from their homes, many going up the Amazon to work in the rubber fields, thus enhancing the rubber output through Pará. The above report would appear to be unfavorable, the conditions being little better than last year, when many thousands were exiled from their homes by the excessive drought.—THE INDIA RUBBER WORLD.]

SOME WANTS OF THE TRADE.

[334] FROM a factory: "Can you advise us of the fountain pen manufacturers or any other sources of supply where we might procure hard rubber scrap and shavings of good quality?"

[335] From a factory: "We should like to know the names of some firms in Germany who manufacture rubber substitutes."

[336] From a broker: "Will you kindly inform us where we can obtain 'Fox brand' (shrub) rubber?"

[337] From a factory: "Referring to a report on 'The Manufacture of Cut Sheet' in your April issue, you will confer a great favor by sending me the addresses of firms making this article."

[338] From a factory: "I am desirous of knowing what firms manufacture formers for gloves and finger cots, such as are used in vulcanizing in acids."

[339] From Arizona: "Can you tell me where I can obtain some of the plants or seeds of the Guayule, growing on the plateau near Torreon, Mexico?"

THE EDITOR'S BOOK TABLE.

INTERNATIONAL EXPOSITION, ST. LOUIS, 1904. OFFICIAL CATALOGUE of the Exhibition of the German Empire. Edited by the Imperial Commissioner. Berlin: Georg Stilke. 1905. [Leather. 8vo. Pp. 538.]

THIS comprehensive and informing descriptive list of 3721 exhibits is prefaced by 358 pages of so called "introductory articles," in which a score of experts have summarized the industrial status of the German empire at the beginning of the twentieth century, not forgetting to note the social and educational progress of the empire. We do not know where a more satisfactory résumé of these subjects is to be found, and, wholly apart from the catalogue of industrial exhibits made by Germany at St. Louis, this volume deserves to be studied by whoever desires to be well informed, without a world of study, in regard to the causes of the recent progress of that country and her industrial prospects. This is a companion volume to a similar work published under the auspices of the Imperial government in connection with the International Exposition of 1900 at Paris. It is printed in the same type of special design which was first used in the 1900 report, and the arrangement of matter in the volume is somewhat similar, though the industrial prefatory review is much more comprehensive. It may be mentioned in passing that the chapter on bicycles in the earlier report has been supplanted by one on motor cars, bicycles having very scant mention in the later volume. The report has been received through the courtesy of the Imperial German consulate general at New York.

AFFAIRS OF THE UBERO COMPANIES.

THE receivers for the *Ubero Plantation Co of Boston*, Jeremiah Smith, Jr., and Hugh W. Ogden, on June 13 filed with the clerk of the United States circuit court in Boston their first report on the condition of that company. It is alleged that the company has been grossly mismanaged, and that the officials have been lax in attention to its affairs. The net cash receipts from investors, to April 1, 1905, appear to have been $571,037.02. The books show no other receipts—from plantation earnings, for example. There was paid to the La Puerta companies—in consideration of lands purchased and alleged development work—$280,426; other work on plantation, $46,000; commissions on sale of shares, $98,717; running expenses, $115,000. All these payments are claimed to have been extravagant, in view of the small amount of work done, the receivers considering that the sale of the plantation would realize practically nothing for the investors. The receivers ask for authority to bring suit against the various parties to whom money has been paid, with a view to recovering something for the shareholders. [The details of the organization of the *Ubero Plantation Co. of Boston* appeared in THE INDIA RUBBER WORLD, May 1, 1905—page 278.]

* * *

A SUIT in equity having been filed in the supreme court at Boston, Massachusetts, by the receivers for the *Ubero Plantation Co. of Boston* against (1) the Old Colony Trust Co. (Boston), as trustee, (2) La Puerta Plantation Co. (an Indiana corporation), and (3) William D. Owen, to determine title to certain lands in Mexico, an answer has been filed by the Old Colony Trust Co. The agreement under which the *Ubero Plantation Co. of Boston* purchased the land from La Puerta Plantation Co. was that the trust company would hold the deeds until the property was paid for, the consideration being $750,000, but in the event of the payments not being completed within a certain time, the Ubero company should be entitled to only so much land as the money actually paid would purchase on the basis of $300 an acre. No land has ever been conveyed to the Ubero company, although the date fixed for the final payment under the contract was July 1, 1904, and the suit has been brought to have the title transferred. The trust company make answer that service should be made upon W. D. Owen and La Puerta company and that they are indispensable parties to the suit. It appears that the Massachusetts court has no jurisdiction over La Puerta company, which is an Indiana corporation and never had a place of business in Massachusetts, and the plaintiffs have been equally unable to get service on Owen, who is supposed to be in Europe. The Old Colony Trust Co. contend that it might operate very unjustly against them if they were compelled to transfer land to the Ubero company, since La Puerta company and Owen might later have cause for action against them. It is reported that La Puerta Plantation Co. will set up the claim that they cannot be compelled to give title to the Ubero company for the reason that the latter has not complied with the terms of its contract in relation to making payments.

* * *

AN order discharging the Union Trust Co. as receiver for the *Ubero Plantation Co. of Indianapolis* was entered in the superior court at Indianapolis on June 7, on the motion of Judge Ulric Z. Wiley, vice president and acting president of the company, through his attorney. Judge Carter, in granting the motion, said the court was satisfied that the company had no debts and was solvent, having assets in excess of capital stock liability, and in a condition to continue its business.

RUBBER INTERESTS IN EUROPE.

GREAT BRITAIN.

MICHELIN Tyre Co., Limited, with £60,000 [=$291,990] capital, was registered in London May 11, 1905, to adopt an agreement with Michelin et Cie. (Clermont-Ferrand, France) and William Warne & Co., Limited (London), and to carry on the business of manufacturing and selling Michelin tires and other tires and accessory goods. The board embraces Messrs. Andre and Edouard Michelin, and also Mr. James Burbridge, managing director of the Warne rubber works.

=Callender's Cable and Construction Co., Limited, report a profit for the last business year of £57,065 [=$277,707], enabling dividends to be paid of 5 per cent. on the preference and 12½ per cent. on the ordinary shares. The company have had cable laying contracts in India, the Malay States, Siam, Australia, and South America, in addition to their home trade, and are planning to secure work in Egypt.

=Mr. H. L. Terry, F. I. C., of Manchester, England, whose name in the past has been connected chiefly with rubber interests, has recently been elected an Associate of the Institution of Mining and Metallurgy, in London. It is understood that despite this entry into a new sphere of work, Mr. Terry retains his interest in and connection with the rubber industry.

GERMANY.

HERR LOUIS HOFF, of the Vereinigte Gummiwaaren-Fabriken, Harburg-Wien, has just terminated a six weeks' vacation at Carlsbad. Herr Franz Stingl, the other director of the rubber works, had previously returned from a five weeks' stay at Neuheim, where, an INDIA RUBBER WORLD correspondent writes, "an American doctor is fixing up hearts in great shape."

AUSTRIA-HUNGARY.

KABELFABRIK ACTIENGESELLSCHAFT (Pressberg and Vienna), with a capital of 2,400,000 kronen [=$487,200] reports an income during the business year 1904 of 1,410,805 kronen. The dividend rate was 7 per cent., the same as in 1903. Orders for cables were executed for the Austrian and Hungarian governments and for various municipalities in those countries, in addition to orders from Germany, Spain, Belgium, and Russia. The company's new factory in Vienna was opened in May, and the offices removed to that place.

DENMARK.

THE rubber reclaiming firm "Dansk Afvulkaniserings Aktieselskab," F. Mariendalsvei 47, Copenhagen, has executed a lease of its works for 10 years to its former general manager, Mr. Albert Theilgaard. The power of attorney held by him in conjunction with Mr. Knappe has been cancelled. Mr. Theilgaard will personally manage the enterprise under the firm name "Albert Theilgaard, Dansk Afvulkaniserings Aktieselskab." K. Theilgaard and Alfred Knappe have been granted a joint power of attorney.

FRANCE.

THE technical director of the Etablissement Hutchinson, the great rubber factory in central France, Monsieur Bouguillon, has received from President Loubet the decoration of the Legion of Honor as a recognition of eminent services to the industries of France.

=A correspondent of THE INDIA RUBBER WORLD in Paris reports meeting there Messrs. Charles H. Taylor and Edgar R. du Mont, of the New York agency of the Harburg and Vienna India-Rubber Co., Mr. du Mont being accompanied by his wife. On June 1 Mr. A. M. Stickney, of the Wellman Sole Cutting Machine Co. was registered at the Grand Hotel de la Porte, Montargis, France.

REVIEW OF THE CRUDE RUBBER MARKET.

THERE has been a sensible decline in the quotations for all Pará sorts during the month, which may be attributed in part to the fact that July 1 is a period of stock taking in very many rubber factories, and that consumers pursue the policy of not having on hand at that date any larger supplies of raw material than they may deem absolutely necessary. Buying, therefore, has been very quiet, but holders are very confident that after the concluding inventories are concluded a good and possibly more than seasonable demand will prevail throughout the summer months. Quotations for August-September delivery are considerably lower than for spot rubber. The figures given in detail of arrivals at Pará for the last four years show that the yield for the crop year just ended are materially larger than for any twelve-month in the past, which is due to increased arrivals from beyond the Brazilian borders—in Bolivia and Peru, including larger figures for Caucho than in any preceding year.

The monthly inscription sales at Antwerp on June 27, contrary to the general expectation of the trade, showed a slight advance over brokers' estimations.

Following is a statement of prices of Pará grades, one year ago, one month ago, and on June 30—the current date:

PARA.	July 1, '04.	June 1, '05.	June 30.
Islands, fine, new	108@109	132@133	128@129
Islands, fine, old	109@110	none here	none here
Upriver, fine, new	112@113	133@134	130@131
Upriver, fine, old	113@114	none here	132@133
Islands, coarse, new	63@ 64	76@ 77	72@ 73
Islands, coarse, old	@	none here	none here
Upriver, coarse, new	87@ 88	96@ 97	95@ 96
Upriver, coarse, old	88@ 89	none here	none here
Caucho (Peruvian) sheet	66@ 67	74@ 75	72@ 73
Caucho (Peruvian) ball	76@ 77	82@ 83	80@ 81

Prices for other grades in the New York market show generally lower values, as follows:

AFRICAN.		CENTRALS.	
Sierra Leone, 1st quality	100@101	Esmeralda, sausage	84 @85
Massai, red	100@101	Guayaquil, strip	72 @73
Benguella	76@ 77	Nicaragua, scrap	83 @84
Cameroon ball	67@ 68	Panama, slab	62 @63
Accra flake	28@ 29	Mexican, scrap	83 @84
Lopori ball, prime	106@107	Mexican, slab	58 @59
Lopori strip, prime	95@ 96	Mangabeira, sheet	72 @73
Madagascar, pinky	90@ 91	EAST INDIAN.	
Ikelemba		Assam	97 @98
		Borneo	42 @43

Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine	5$850	Upriver, fine	6$600
Islands, coarse	2$650	Upriver, coarse	4$300

Exchange, 16 3/16 d.

Last Manáos advices:

Upriver, fine	6$650	Upriver, coarse	3$950

Exchange, 16 7/16 d.

NEW YORK RUBBER PRICES FOR MAY (NEW RUBBER).

	1905.	1904.	1903.
Upriver, fine	1.31@1.35	1.11@1.15	91 @94
Upriver, coarse	95@ 97	86@ 90	71 @73
Islands, fine	1.29@1.32	1.08@1.12	87 @91
Islands, coarse	73@ 76	65@ 69	56 @60
Cametá, coarse	78@ 81	66@ 70	60 @64

In regard to the financial situation, Albert B. Beers (broker in India-rubber, No. 68 William street, New York) advises us as follows:

"The report of a month ago still covers the situation regarding commercial paper, which has ruled very steady through June, with a fairly good demand, principally from out of town banks, for the best rubber names at 4 and 5 per cent., and the smaller concerns 5 and 6 per cent."

Statistics of Para Rubber (Excluding Caucho).

NEW YORK.	Fine and Medium.	Coarse.	Total 1905.	Total 1904.	Total 1903.
Stocks, April 30 ... tons	357	254 =	611	303	555
Arrivals, May	292	171 =	463	719	1026
Aggregating	649	425 =	1074	1022	1581
Deliveries, May	288	208 =	496	695	1040
Stocks, May 31	361	217 =	578	327	541

	PARÁ.			ENGLAND.		
	1905.	1904.	1903.	1905.	1904.	1903.
Stocks, April 30 ... tons	496	110	150	355	495	1675
Arrivals, May	1660	1085	2070	815	470	650
Aggregating	2156	1195	2220	1170	965	2325
Deliveries, May	1791	1000	2105	800	525	925
Stocks, May 31	365	195	115	370	440	1400

	1905.	1904.	1903.
World's visible supply, May 31 ... tons	2143	1537	2996
Pará receipts, July 1 to May 31	26,326	24,890	25,226
Pará receipts of Caucho, same dates	5004	4204	3704
Afloat from Pará to United States, May 31	125	95	500
Afloat from Pará to Europe, May 31	705	480	440

Para Rubber Arrivals.

	1901-02.	1902-03.	1903-04.	1904-05
July ... tons	1,260	1,290	1,280	1,250
August	1,290	1,370	1,230	1,260
September	1,940	1,670	2,010	1,780
October	2,640	2,280	2,440	2,820
November	2,970	2,650	2,980	2,800
December	3,530	2,990	3,530	3,390
January	3,860	2,490	4,360	4,590
February	3,380	4,760	3,680	4,320
March	3,660	4,040	3,940	5,000
April	2,140	2,480	2,070	2,120
May	2,080	2,070	1,560	2,260
June	1,250	1,760	1,500	a 1,330
Total ... tons	30,000	29,850	30,580	a 32,920

[a—To June 28, 1905.]

United States Imports.

ELEVEN MONTHS ENDING MAY 31.

	1903.	1904.	1905.
India-rubber	51,657,573	56,518,851	63,537,996
Gutta-percha	288,913	582,591	611,177
Gutta-jelutong	11,838,052	13,219,883	17,130,205

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for carload lots, in cents per pound—show a general increase over last month's figures, as follows:

	Last Month.	Current.
Old Rubber Boots and Shoes—Domestic	5 7/8 @ 6	6 1/8 @ 6 1/4
Do —Foreign	5 1/4 @ 5 3/8	5 1/2 @ 5 3/4
Pneumatic Bicycle Tires	4 1/4 @ 4 1/2	5 @ 5 1/4
Solid Rubber Wagon and Carriage Tires	6	6 1/8 @ 6 3/4
White Trimmed Rubber	8 1/8 @ 8 1/4	8 1/2 @ 8 3/4
Heavy Black Rubber	4	4 1/2 @ 4 5/8
Air Brake Hose	2 1/2 @ 2 5/8	2 3/4 @ 3
Fire and Large Hose	2 @ 2 1/4	2 1/4 @ 2 1/2
Garden Hose	1 3/4 @ 1 7/8	1 3/4 @ 1 7/8
Matting	3/4 @ 1	3/4 @ 1

Bordeaux.

IMPORTATION OF CAOUTCHOUC.

MONTHS.	1904.	1905.
January.....*kilos*	54,550	130,255
February	169,025	126,540
March	94,615	173.355
April	121,560	152,650
May	91,125	74,700
Total	530,875	657,500

PRICES [FRANCS PER KILO] JUNE 17.

Soudan twists	9.50@ 9 90	Lahou twists	9.40 @ 9 80
Soudon niggers, red	10.70@11.10	Bassam lumps	5.90 @ 6.20
Soudan niggers, white	10.50@10.75	Bassam niggers	8.70@ 9.
Conakry niggers	11.30@11.50	M'dg'car—Tamatave	9. @ 9.50
Cassamance A	7 90@ 8.	M'dg'car—Majunga	7. @ 8.25
Cassamance A M	7. @ 7.20	Manigoba	7 75@ 9.20
Lahou cakes	7.50@ 7.75	New Caledonia	10 90@11.50
Lahou niggers	10. @11.	Java	8. @10 50

STOCKS this date about 27,000 kilograms.

R. HENRY, SUCCESSEUR.

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: At the large sale by inscription which took place on May 31 the following quantities were exposed and sold:

Congo sorts	546 tons offered	502 tons sold
Sundries	40 tons offered	34 tons sold
Total	586 tons offered	536 tons sold

The chief interest was shown for the good conditioned lots, which on the whole found buyers above valuations, whereas badly conditioned and sticky lots could only be sold with a reduction on prices. The result of the sale is very satisfactory, although prices were rather irregular; the average, however, comes out at valuations.

At a small sale by inscription which took place on June 2, 19 tons out of 27 tons offered were sold at unchanged prices.

The next large sale will be held on June 28, when about 250 tons will be offered. Stocks on June 1, about 345 tons.

C. SCHMID & CO., SUCCESSEURS.

Antwerp, June 6, 1905.

ANTWERP RUBBER STATISTICS FOR MAY.

DETAILS.	1905.	1904.	1903.	1902.	1901.
Stocks, April 30. *kilos*	635,875	441,621	488,799	500,664	813 818
Arrivals, May	287.333	737,520	352,833	537,536	356,915
Congo sorts	214 751	685 086	322,725	480,902	315,382
Other sorts	72,582	52,440	30,108	47,634	41,533
Aggregating	923,208	1,179,147	841,632	1,038,200	1,170,733
Sales in May	576,104	436,932	499 040	573,525	345,291
Stocks, May 31	347,104	742.215	342,592	464.675	825,442
Arrivals since Jan. 1	2,220,288	2,554 426	2,104.704	2,346,859	2,543,593
Congo sorts	1,757,649	2,128.132	1,888 264	2,188,328	2,267,238
Other sorts	462,639	426,294	216,440	158,531	276,355
Sales since Jan. 1	2,414,545	2,423,111	2,420,217	2,296,893	2,332,190

RUBBER ARRIVALS AT ANTWERP.

MAY 17.—By the *Philippeville*, from the Congo:

Société A B I R		*kilos* 25,000
Comptoir Commercial Congolais		11,000
Bunge & Co	(Société Générale Africaine)	102,000
Do	(Comité Special Katanga)	15,000
Do	(Société "La Kotto")	1,000
Do	(Société des (Sultanats du Haut Ubangi)	10,500
Société Equatoriale Congolaise	(Société l'Ikelemba)	2,000
Edm. Van Steensel (Cie. Bruxelloise du Haut Congo)		4,500
Cie. Commerciale des Colonies (Cie. Francaise du Congo)		5,500
Do	(Société La Haut Sangha)	8,000
Do		1,000
Société Generale de Commerce	(Alimaienne)	1,500
Do	(Société La Laboy)	7,500
Société Coloniale Anversoise	(Cie. du Kasai)	65,000
Comptair des Produits Coloniaux	(Société "N'Goko" Sangha)	2,000
L. & W. Van de Velde		1,000 262,500

JUNE 6.—By the *Anversville*, from the Congo:

Bunge & Co	(Société Générale Africaine) *kilos*	62,000
Do		9,000
Do	(Chemins de fer Grand Lacs)	13,000
Do	(Société A B I R)	10,000
Comptoir Commercial Congolais		2,000
L. & W. Van de Velde	(Cie. du Kasai)	12,000
Société Coloniale Anversoise	(Süd Kamerun)	6,000
Do	(Belge du Haut Congo)	3,000
Do	(Cie. de Lomami)	3,000
M. S. Cols	(Alima)	4,000
Cie. Commerciale des Colonies	(La Haut Sangha)	7,000
Do		2,000 133,000

Liverpool.

WILLIAM WRIGHT & CO. report [June 1]:

Fine Para.—The market in the early part of the month was active, and prices of Upriver and Islands fine advanced to 5*s.* 9*d.*; since then the demand has been slow, to day's spot value being 5*s.* 8½*d.* for Upriver, and 5*s.* 8¾*d.* for Islands. There is, however, a strong undercurrent of strength in the market, as in spite of the fact that receipts are considerably in excess of the revised estimate, prices have only declined ½*d.* per pound, very little offering. The forward market has been quiet; a good business could have been done, but in the present strong statistical position sellers will only offer to a limited extent. Any resumption of the American demand would mean an immediate rise in values.

EDMUND SCHLÜTER & CO. report [May 31]:

In the face of the increased supplies from Brazil during May it becomes difficult to see the necessity of again dearer prices, but there is not in Europe any surplus supply, while the accumulation in America is not available for market purposes, being held in reserve for the summer and autumn demand.

WM., JAS. & HY. THOMPSON, 38, Mincing lane, E. C., London, announce that in view of the great increase in the production of India-rubber, and notably in Ceylon and the Malay States, they have determined to open a department for its sale, which will be placed in charge, on and after July 3, of an expert who for more than 20 years has been actively associated with one of the leading Liverpool brokers in rubber.

London.

EDWARD TILL & CO. report stocks [June 1]:

		1905.	1904.	1903.
LONDON	Pará sorts *tons*	—	—	—
	Borneo	27	22	13
	Assam and Rangoon	8	5	5
	Penang	224	—	—
	Other sorts	201	227	209
	Total	460	254	227
LIVERPOOL	Pará	370	446	1402
	Caucho	296	305	243
	Other sorts	518	662	376
	Total, United Kingdom	1644	1667	2248
	Total, May 1	1415	1644	2539
	Total, April 1	1232	1367	2525
	Total, March 1	1264	1136	1939

PRICES PAID DURING MAY.

	1905.	1904.	1903.
Pará fine, hard	5/ 6¼@5/ 9	4/ 9 @4/10½	3/10¼@3/10¾
Do soft	5/ 6¾@5/ 8½	4/ 8 @4/ 9¾	No sales
Negroheads, scrappy	4/ 0½@4/ 1	3/ 9	3/ 1 @3/ 1¾
Do Cametá	3/ 3½@3/ 4	2/11 @3/	2/ 7 @2/ 9
Bolivian	5/ 7 @5/ 8¾	4/10 @4/11	No sales
Caucho, ball	3/ 4 @3/ 6	3/ 3¼@3/ 5	3/ 0½@3/ 0¾
Do slab	3/ 1 @3/ 2	2/10¼@2/11	2/ 4½@2/ 6
Do tails	3/ 1½@3/ 3	3/ 2 @3/ 2½	No sales

AUCTION SALES REPORT.

JUNE 9.—The market for Pará has been very quiet, and scarcely any business has been done, but prices are without quotable change. Fine hard on the spot sold at 5*s.* 8½*d.* and buyers, and entrefine at 5*s.* 7*d.*; July-August delivery hard sold at 5*s.* 8¾*d.* @ 5*s.* 9*d.* Soft fine near delivery sold at 5*s.* 8½*d.*, and entrefine at 5*s.* 6½*d.* At auction to-day the small supplies met a slow market, but prices were steady for fair to good qualities. Central American: Softish scrap sold at 3*s.* 3½*d.* @ 3*s.* 3¾*d.*, fair black slab, 2*s.* 10¾*d.* Colombian virgin scrap and slab. 3*s.* 8*d.* @ 3*s.* 8¼*d.* Mozambique: Lamu ball part slightly heated, 3*s.* 7*d.* @ 3*s.* 8*d.*, red and white ball 3*s.* 10*d.* Madagascar good mottled mixed pinky 3*s.* 2*d.* Benguela niggers 3*s.* ¼d.

PLANTATION RUBBER.

May 28 Auction.—**Ceylon and Straits:** 83 packages offered and 78 sold; fine washed pale **Straits** (lace or crepe rubber) at 6*s.* 9¼d. [=$1.65¼]; fine thin pale and dark biscuits, 6*s.* 9*d.* @ 6*s.* 9¼*d.*; ditto rather dark, 6*s.* 7*d.* @ 6*s.* 8*d.*; good to fine clean scrap, 4*s.* 6*d.* @ 5*s.* 5*d.*——**Assam:** Fine red plantation (*Ficus elastica*), at 4*s.* 11½*d*, [=$1.20⅞]; grayish ditto 4*s.* 7*d.*

June 9 Auction.—**Ceylon:** Of 67 packages offered, 20 sold; fine biscuits at 6*s.* 7*d.* @ 6*s.* 8*d.*; scrap, good to fine dry at 5*s.* 4*d.* @ 5*s.* 7¼*d.*; clean dark pressed sheet at 5*s.* 4*d.*

Venezuela.

BALATA.—O. Engelhardt of Ciudad Bolivar reports in *Der Tropenpflanzer* (Berlin) a small crop for 1904, owing to low prices, many gatherers having quit the field. Up to June 30 of that year only about 100,000 kilograms exported, of which 40,000 were lost by the foundering of the steamer *Whitney* on the Orinoco.——Former exports of Balata were as follows:

In 1896	*kilos* 75,000	In 1900	*kilos* 1,216,268
In 1897	295.733	In 1901	1,196,414
In 1898	434,168	In 1902	816,752
In 1899	749,872	In 1903	1,094.578

RUBBER.—Total exports for 1903 are stated at 93,000 kilograms, the greater part of which was shipped by Manáos on the rio Negro. Disturbed political conditions are mentioned as having interfered with the securing of later official statistics.

Manaos Rubber Receipts.

DURING April and ten months of the crop season for three years [courtesy of Messrs. Witt & Co.]:

FROM—	APRIL. 1905.	1904.	1903.	JULY-APRIL. 1905.	1904.	1903.
Rio Purús—Acre *tons*	308	360	452	5799	5525	5492
Rio Madeira	85	84	86	2713	2528	2160
Rio Juruá	567	348	238	3719	3459	3393
Rio Javary—Iquitos	131	23	58	2528	2206	1473
Rio Solimões	58	73	37	846	808	1305
Rio Negro	133	38	96	699	422	635
Total	1282	926	967	16,304	14,948	14,458
Caucho	540	408	619	3802	3168	2758
Total	1822	1334	1586	20,106	18,116	17,216

DURING May and eleven months of the crop season for three years [courtesy of Messrs. Witt & Co.]:

FROM—	MAY. 1905.	1904.	1903.	JULY-MAY. 1905.	1904.	1903.
Rio Purús—Acre *tons*	321	358	420	6120	5883	5912
Rio Madeira	159	113	89	2872	2641	2249
Rio Juruá	192	185	183	3911	3644	3576
Rio Javary—Iquitos	64	13	29	2592	2219	1502
Rio Solimões	36	20	43	882	828	1348
Rio Negro	57	46	16	756	468	651
Total	829	735	780	17,133	15,683	15,238
Caucho	484	632	596	4286	3800	3354
Total	1313	1367	1376	21,419	19,483	18,592

Para.

KANTHACK & CO. report [June 10]:

Rubber.—No new feature has altered the attitude of the market, and with the continuance of steady buying and light receipts, considerable firmness has been in evidence. Prices, however, seem to have reached their extreme point, and have remained almost stationary. Receipts to far this crop [since July 1, 1904] are about 32,110 tons, against 29,620 tons same time last year, thus showing an increase of about 8½ per cent.

EMBARGO ON RUBBER FROM THE ACRE.

MR. FELIPPE MORENO MANESCHY, the pilot of the steamer *Iracema*, which arrived yesterday at the "Arinos" from Acre, informed a representative of this paper that the tax collector of the state of Amazonas will lay an embargo on the vessel, to prevent its sailing to Belém [Para], its port of destination. The motive for the action of the tax department is to be found in the fact that the *Iracema* carries various lots of rubber embarked in the Federal territory of Acre, the tax on which the collector intends to collect.—*A Provincia do Para, June 4.*

The Congo Rubber Movement.

EXPORTS of rubber from the Congo Free State during 1904 are officially stated as follows:

	Kilos.	Value.
Total rubber exports	5,764,644	51,881,796 francs
Product of the State	4.830,939	43,478,451 "

French Indo-China.

RUBBER Exports for 1904:

From Tonkin *kilos*	164,160	
From Saigon	12,918	
From Cambodge	99	177,177
Total, 1903		78,675

—*Bulletin Economique*, March, 1905.

Philippine Islands.

THE bureau of forestry reports the collection of the following, from public lands, during the year ended June 30, 1904:

Gutta percha *pounds*	50,856
India-rubber	8,593

Ceylon Exports (Plantation Rubber).

	POUNDS.		POUNDS.
January 1 to April 17	30,853	Week ending May 22	2,754
Week ending April 24	——		
Week ending May 1	1,137	Total	39,770
Week ending May 8	727	Same period, 1904	28,693
Week ending May 15	4,299	Same period, 1905	17,347

DESTINATION.

Great Britain	25,544	United States	2,872
Germany	10,207	Australia	1,147

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

June 2.—By the steamer *Polycarp* from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
A. T. Morse & Co	30,100	15,100	106 800	64,600=	216,600
Poel & Arnold	9.100		25,600	20,900=	55,600
New York Commercial Co.	3,400	300	15,400	20,600=	39,700
Hagemeyer & Brunn	8,100	1,300	4,800	600=	14,800
Neale & Co	8,500	2,300	1,500	1,400=	13,700
General Rubber Co	300		8,400	3,000=	11,700
Edmund Reeks & Co				5,100=	5,100
G. Amsinck & Co		4,000		=:	4,000
Lionel Hagenaers & Co.	900		700	=:	1,600
Total	60,400	23,000	163,200	116,200=	362,800

June 15.—By the steamer *Maranhense*, from Manáos and Pará:

New York Commercial Co.	131,500	37,400	53,000	7,600=	229,500
A. T. Morse & Co	21,300	9,800	30,500	47,900=	109,500
Poel & Arnold	2,100	700	52,700	65,300=	120,800
Lawrence Johnson & Co.			5.600	21,900=	27,500
General Rubber Co	3,000	200	32,000	8,800=	44,000
Lionel Hagenaers & Co.	18,700		2,800	=:	21,500
Thomsen & Co	13,300		4,300	=:	17,600
Edmund Reeks & Co	3,000		400	14,600=	18,000
G. Amsinck & Co	1,200	1,600	1,300	10,300=	14,400
Hagemeyer & Brunn				6,000=	6,000
Neale & Co	2,400	300	900	=:	3,600
Herbst Brothers	1,100		900	=:	2,000
Total	197,600	50,000	184,400	182,400=	614,400

June 23.—By the steamer *Grangense*, from Manáos and Pará:

A. T. Morse & Co.	44,700	3,900	35,100	55,000=	138,700
Poel & Arnold	36,800	6,100	40,200	41,200=	124,300
New York Commercial Co.	59,600	19,600	38,500	1,600=	118,700
General Rubber Co.	10,200	1,600	40,400	24,000=	66,200
G. Amsinck & Co	11,300	.....	3,000	.....=	14,300
Lionel Hagenaers & Co.	6,500	.....	4,100	.....=	10,600
Hagemeyer & Brunn	5,200	.....	2,800	.....=	8,000
Total	174,300	30,600	154,100	121,800=	480,800

[NOTE.—The steamer *Amazonense*, from Pará, is due at New York July 3, with 100 tons Rubber.]

PARA RUBBER VIA EUROPE.

MAY 27.—By the *Lorraine*=Havre:

	POUNDS.
Poel & Arnold—(Fine)	4,500

JUNE 1.—By the *Capac*=Mollendo:

F. Rosenstein & Co. (Fine)	7,500	
George A. Alden & Co. (Fine)	7,000	14,500

JUNE 1.—By the *Menzanares*=Cuidad Bolivar:

Thebaud Brothers (Fine)	12,500	
Thebaud Brothers (Coarse)	4,000	16,500

JUNE 6.—By the *Bovic*=Liverpool:

Wallace L. Gough (Caucho)	5,500	
Poel & Arnold (Medium)	2,000	7,500

JUNE 10.—By the *Lucania*=Liverpool:

George A. Alden & Co. (Caucho)	38,000

JUNE 12.—By the *Cedric*=Liverpool:

Poel & Arnold (Caucho)	36,000	
Wallace L. Gough (Caucho)	11,000	
Wallace L. Gough (Fine)	11,000	58,000

JUNE 15.—By the *Grenada*=Trinidad:

Thebaud Brothers (Coarse)	3,500

JUNE 19.—By the *Etruria*=Liverpool:

George A. Alden & Co. (Caucho)	45,000

OTHER ARRIVALS IN NEW YORK

CENTRALS.

MAY 25.—By the *Finance*=Colon:

	POUNDS.	
J. A. Medina & Co.	4,500	
E. B. Strout	2,000	
Silva Bussenius & Co.	2,000	
Isaac Brandon & Bros.	1,700	
Smithers, Nordenholt & Co.	700	
G. Amsinck & Co.	700	
Lawrence Johnson & Co.	500	13,000

MAY 27.—By the *Esperanza*=Mexico:

E. Steiger & Co	3,000	
Harburger & Stack	3,500	
H. Marquardt & Co	2,500	
L. N. Chemedlin & Co.	1,000	10,000

MAY 29.—By the *St. Paul*=London:

J. H. Rossbach & Bros.	10,000	
A. T. Morse & Co.	4,500	
Henry A. Gould Co.	2,500	17,000

MAY 29.—By the *Orizaba*=Colon:

G. Amsinck & Co.	14,200	
J. A. Medina & Co.	5,900	
Hirzel, Feltman & Co.	1,000	
Andean Trading Co.	600	
A. Rosenthal's Sons	800	
Silva, Bussenius & Co.	600	
E. B. Strout	600	
Gabriel Perigault	500	24,000

MAY 29.—By the *El Dorado*=New Orleans:

A. N. Rotholz	2,500	
A. T. Morse & Co.	1,700	4,200

JUNE 1.—By the *Oceanic*=Liverpool:

A. T. Morse & Co.	7,000

JUNE 1.—By the *Menzanares*=Cuidad Bolivar:

Kunhardt & Co.	2,500	
Middleton & Co	1,000	
Thebaud Brothers	1,000	4,500

JUNE 2.—By the *Pennsylvania*=Hamburg:

Poel & Arnold	18,500	
A. T. Morse & Co.	3,500	22,000

JUNE 5.—By *El Paso*=New Orleans:

A. T. Morse & Co.	16,000	
Manhattan Rubber Mfg. Co.	9,000	
Eggers & Heinlein	2,000	27,000

JUNE 5.—By the *Vigilancia*=Mexico:

Harburger & Stack	4,500	
H. Marquardt & Co.	2,000	
Strube & Ulitze	3,500	
Graham, Hinkley & Co	1,000	
Thebaud Brothers	1,000	
Markt, Strulier & Co	600	
American Trading Co.	500	13,100

JUNE 6.—By the *Seguranca*=Colon:

Hirzel, Feltman & Co.	8,000	
G. Amsinck & Co.	6,300	
American Trading Co.	3,200	
Dumarest Bros. & Co	3,100	
A. Santos & Co	2,200	
Gabriel Perigault	2,000	
Lawrence Johnson & Co.	1,800	

CENTRALS—Continued.

Mecke & Co.	800	
Lanman & Kemp	1,300	28,800

JUNE 7.—By the *Sarnia*=Colombia:

G. Amsinck & Co.	2,500	
Isaac Brandon & Bros.	2,200	
Isaac Kubie & Co.	2,000	
D. A. De Lima & Co	2,000	
A. A. Lindo & Co.	1,000	
Kunhardt & Co	700	
Banco Exportasos	600	11,000

JUNE 12.—By the *St. Louis*=London:

J. H. Rossbach & Bros.		13,000

JUNE 12.—By the *Havana*=Mexico:

H. Marquardt & Co.	4,000	
L. N. Chemedlin & Co.	3,000	
Harburger & Stack	1,100	
Graham Hinkley & Co.	500	8,600

JUNE 12.—By the *El Monte*=New Orleans:

A. T. Morse & Co.	6,000	
Manhattan Rubber Mfg. Co.	2,000	
A. N. Rotholz	2,000	10,000

JUNE 12.—By the *Advance*=Colon:

G. Amsinck & Co.	5,000	
Piza Nephews Co.	1,400	
A. Santos & Co	1,300	
Isaac Brandon & Bros.	1,300	
Eggers & Heinlein	1,000	
Gabriel Perigault	700	10,700

JUNE 17.—By the *Monterey*=Mexico:

Harburger & Stack	4,500	
E. Steiger & Co.	2,500	
E. N. Tibbals Co	1,200	
Thebaud Brothers	800	
American Trading Co.	800	
H. Marquardt & Co.	500	
To order	20,000	29,700

JUNE 19.—By the *Byron*=Bahia:

Hirsch & Kaiser	57,000	
J. H. Rossback & Bros.	34,000	
American Commercial Co.	14,000	
A. D. Hitch & Co.	9,000	
Lawrence Johnson & Co.	4,000	118,000

JUNE 16.—By the *Alliance*=Colon:

G. Amsinck & Co.	3,600	
J. A. Medina & Co	2,300	
Meyer Hecht	2,400	
H. Marquardt & Co	2,200	
E. B. Strout	1,300	
A. A. Lindo & Co	1,100	
Lawrence Johnson & Co.	700	
A. Rosenthals Sons	700	
Fred. Probst & Co.	500	
Silva Bussenius & Co	500	
Gabriel Perigault	800	16,100

JUNE 19.—By the *El Dorado*=New Orleans:

G. Amsinck & Co.	2,500	
Silva, Bussenius & Co	1,000	
A. T. Morse & Co.	3,000	
Andreas & Co.	1,000	7,500

JUNE 19.—By the *Finance*=Colon:

Mecke & Co.	3,000	
Roldan Van Sickle	3,000	
G. Amsinck & Co.	2,600	
Isaac Brandon & Bros.	2,600	
A. M. Capen Sons	1,400	
Herzel, Feltman & Co.	1,200	
Dumarest Bros. & Co.	900	
A. Santos & Co.	700	15,400

JUNE 20.—By the *Sibiria*=Colombia:

Isaac Kubie & Co.	2,200	
Kunhardt & Co.	800	
G. Amsinck & Co	800	
Pedro A. Lopez	500	
G. T. Fajardo	800	
Isaac Brandon & Bros.	500	5,600

June 23.—By the *Esperanza*=Mexico:

Harburger & Stack	2,500	
E. Steiger & Co.	2,000	
Thebaud Brothers	1,000	
H. Marquardt & Co.	1,200	
Fred Probst & Co.	1,000	
W. Loaiza & Co.	500	8,200

JUNE 22.—By the *Teutonic*=Liverpool:

Earle Brothers		7,000

JUNE 23.—By the *Orizaba*=Colon:

Hirzel, Feltman & Co.	8,600	
G. Amsinck & Co.	2,100	
Piza, Nephews & Co.	1,100	
Gabriel Perigault	900	
Williams & Terhune	700	13,400

AFRICANS.

	POUNDS.	
MAY 25.—By the *Teutonic*=Liverpool:		
George A. Alden & Co.	45,000	
A. T. Morse & Co.	11,000	
Poel & Arnold	5,000	61,000
MAY 27.—By the *Campania*=Liverpool:		
George A. Alden & Co.	28,000	
Wallace L. Gough	5,000	33,000
MAY 29.—By the *Celtic*=Liverpool:		
General Rubber Co.	139,000	
Poel & Arnold	6,000	145,000
MAY 29.—By the *Armenia*=Hamburg:		
Poel & Arnold	30,800	
A. T. Morse & Co.	12,000	
George A. Alden & Co.	10,000	
Rubber Trading Co	2,000	54,000
MAY 31.—By the *Georgic*=Liverpool:		
General Rubber Co.	11,000	
Wallace L. Gough	2,500	13,500
JUNE 1.—By the *Oceanic*=Liverpool:		
General Rubber Co.	67,000	
Poel & Arnold	64,000	
A. W. Brunn	25,000	156,000
JUNE 2.—By the *Pennsylvania*=Hamburg:		
A. T. Morse & Co.	46,000	
Poel & Arnold	10,000	
George A. Alden & Co.	8,000	
Rubber Trading Co.	4,000	68,000
JUNE 5.—By the *Umbric*=Liverpool:		
A. T. Morse & Co.	30,000	
General Rubber Co.	6,500	
Wallace L. Gough	5,000	41,500
JUNE 7.—By the *Caronia*=Liverpool:		
George A. Alden & Co.		27,000
JUNE 8.—By the *Bovic*=Liverpool:		
Wallace L. Gough	22,500	
A. W. Brunn	15,000	37,500
JUNE 10.—By the *Lucania*=Liverpool:		
George A. Alden & Co.		22,500
JUNE 12.—By the *Cedric*=Liverpool:		
George A. Alden & Co.	33,000	
Wallace L. Gough	10,000	43,000
JUNE 13.—By the *Fricka*=Bordeaux:		
Rubber Trading Co.	11,000	
A. T. Morse & Co.	3,500	
Wallace L. Gough	5,500	20,000
JUNE 11.—By the *Rhaetia*=Hamburg:		
A. T. Morse & Co.	32,000	
Poel & Arnold	22,000	
George A. Alden & Co.	16,000	
Earle Brothers	15,000	
A. W. Brunn	9,000	94,000
JUNE 13.—By the *Vaderland*=Antwerp:		
A. T. Morse & Co.	80,000	
Poel & Arnold	25,000	105,000
JUNE 15.—By the *Hudson*=Havre:		
Henry A. Gould Co.	9,000	
Poel & Arnold	3,500	12,500
JUNE 16.—By the *Patricia*=Hamburg:		
Rubber Trading Co.		19,000
JUNE 19.—By the *Etruria*=Liverpool:		
Poel & Arnold	8,000	
Wallace L. Gough	8,500	16,500
JUNE 20.—By the *Kroonland*=Antwerp:		
Poel & Arnold	147,000	
George A. Alden & Co.	75,000	
Rubber Trading Co	22,000	244,000
JUNE 22.—By the *Cufic*=Liverpool:		
Poel & Arnold	89,000	
General Rubber Co.	22,000	
George A. Alden & Co.	7,000	118,000
JUNE 23.—By the *Pretoria*=Hamburg:		
A. T. Morse & Co.	58,000	
George A. Alden & Co.	45,000	
Poel & Arnold	22,000	
A. W. Brunn	2,000	124,000
JUNE 24.—By the *Campania*=Liverpool:		
Poel & Arnold	30,000	
A. W. Brunn	11,000	
A. T. Morse & Co.	9,000	50,000

EAST INDIAN.

MAY 25.—By the *Teutonic*=Liverpool:

Poel & Arnold		6,500

MAY 31.—By the *St. Fillans*=Singapore:

George A. Alden & Co	26,000	
Poel & Arnold	20,000	
Robert Branss & Co	13,000	
Winter & Smillie	13,000	
Wallace L. Gough	11,000	83,000

JUNE 6.—By the *Minneapolis*=London:

George A. Alden & Co	4,500	
Wallace L Gough	6,500	
Poel & Arnold	3,500	14,500

JUNE 7.—By the *Caronia*=Liverpool:

Poel & Arnold		15,000

JUNE 7.—By the *Mashona*=Calcutta:

Poel & Arnold	34,000	
George A Alden & Co	3,000	37,000

JUNE 19.—By the *Griqua*=Calcutta:

Poel & Arnold	9,000	
A. T. Morse & Co	3,000	12,000

JUNE 19.—By the *Minnetonka*=London:

George A. Alden & Co		6,500

JUNE 24.—By the *Crostfels*=Calcutta:

Geo. A. Alden & Co		8,500

GUTTA-JELUTONG.

MAY 31.—By the *St. Fillans*=Singapore:

Poel & Arnold	180,000	
George A. Alden & Co	180,000	
Winter & Smillie	115,000	
Windmuller & Reolker	180,000	
Heubler & Co	100,000	
Robert Branss & Co	100,000	805,000

GUTTA-PERCHA AND BALATA.

	POUNDS.	
MAY 29.—By the *Armenia*=Hamburg:		
To Order	17,000	
A. W. Brunn	2,000	19,000
MAY 31.—By the *St. Fillans*=Singapore:		
Windmuller & Reolker		4,500

GUTTA-PERCHA AND BALATA—Continued.

JUNE 6.—By the *Minneapolis*=London:		
A. W. Brunn		5,500
JUNE 12.—By the *Columbia*=Glasgow:		
Kempshall Mfg. Co		2,500
JUNE 16.—By the *Patricia*=Hamburg:		
To Order		7,000
JUNE 19.—By the *Minnetonka*=London:		
A. W. Brunn	15,000	
Wallace L. Gough	9,000	
B. F. Goodrich Co	3,500	27,000
JUNE 23.—By the *Pretoria*=Hamburg:		
To Order		6,000

BALATA.

MAY 29.—By the *Fontabelle*=Demerara:		
Charles P. Shilstone		4,500
JUNE 1.—By the *Oceanic*=Liverpool:		
Joseph Cantor		4,500
JUNE 1.—By the *Menzanares*=Cuidad Bolivar:		
Thebaud Brothers	20,000	
A. H. Wappaus	23,000	43,000
JUNE 14.—By the *Korona*=Demarara:		
Charles P. Shilstone	2,500	
Maitland, Coppell & Co	1,000	3,500
JUNE 15.—By the *Grenada*=Trinidad:		
Frame & Co	4,500	
G. Amsinck & Co	1,000	5,500

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—MAY.

Imports:	POUNDS.	VALUE.
India-rubber	3,197,403	$2,276,094
Gutta-percha	31,782	12,496
Gutta-jelutong (Pontianak)	2,408,867	87,232
Total	5,638,052	$2,375,821

CUSTOM HOUSE STATISTICS—Continued.

Exports:		
India-rubber	42,089	$32,782
Reclaimed rubber	71,459	9,053
Rubber Scrap Imported	498,114	$32,373

BOSTON ARRIVALS.

	POUNDS.	
MAY 9.—By the *Devonian*=Liverpool:		
George A. Alden & Co.—African	56,000	
George A. Alden & Co.—Centrals	7,460	63,460
MAY 10.—By the *Devonian*=Liverpool:		
George A. Alden & Co.—African		7,281
MAY 10.—By the *Sachem*=Liverpool:		
George A. Alden & Co—East Indian		1,898
MAY 15.—By the *Bucrania*=Calcutta:		
George A. Alden & Co.—East Indian		3,908
MAY 17.—By the *Anglian*=London:		
George A. Alden & Co.—African	4,000	
George A. Alden & Co.—Centrals	3,000	
George A. Alden & Co.—East Indian	14,907	21,907
MAY 17.—By the *Astoria*=Hamburg:		
George A. Alden & Co.—African	8,000	
George A. Alden & Co.—Centrals	22,668	30,668
MAY 19.—By the *Canadian*=Liverpool:		
George A. Alden & Co.—African	9,021	
George A. Alden & Co.—African	67,553	76,574
MAY 27.—By the *Bohemian*=Liverpool:		
George A. Alden & Co.—African		27,570
MAY 29.—By the *Michigan*=Liverpool:		
George A. Alden & Co.—Centrals		18,268
Total		251,622

[Value, $176,513.]

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1905	6,193,588	406,365	5,787,223
January-March	26,412,435	728,348	25,684,087
Four months, 1905	32,606,023	1,134,713	31,471,310
Four months, 1904	28,222,397	1,126,691	27,095,706
Four months, 1903	20,072,501	999,095	19,073,406

GREAT BRITAIN.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1905	5,783,232	2,586,640	3,196,592
January-March	15,993,376	10,248,456	5,744,920
Four months, 1905	21,776,608	12,835,096	8,941,512
Four months, 1904	21,299,264	12,833,414	8,465,850
Four months, 1903	20,578,768	13,309,744	7,269,024

GERMANY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1905	3,645,620	867,240	3,645,630
January-March	11,233,860	4,007,300	7,226,560
Four months, 1905	14,879,480	4,874,540	10,004,940
Four months, 1904	12,143,780	3,779,600	8,364,180
Four months, 1903	12,769,240	5,073,640	7,695,600

ITALY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1905	.....	.....	.....
January-March	417,340	66,220	351,120
Four months, 1905	.....	.....	.....
Four months, 1904	598,180	25,960	572,220
Four months, 1903	640,080	25,960	614,120

FRANCE.*

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1905	3,051,400	2,704,020	347,380
January-March	7,165,180	2,894,980	4,270,200
Four months, 1905	10,216,580	5,599,000	4,617,580
Four months, 1904	7,645,220	5,028,760	2,616,460
Four months, 1903	5,559,180	2,779,260	2,779,920

AUSTRIA-HUNGARY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1905	257,400	1,760	255,640
January-March	723,360	1,100	722,260
Four months, 1905	980,760	2,860	977,900
Four months, 1904	1,066,340	10,340	1,056,000
Four months, 1903	959,640	12,320	947,320

BELGIUM †

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS
April, 1905	2,066,310	1,075,789	990,521
January-March	4,205,913	3,000,940	1,204,973
Four months, 1905	6,272,223	4,076,729	2,195,494
Four months, 1904	6,031,542	5,154,098	877,444
Four months, 1903	5,379,250	3,908,302	1,470,948

NOTE.—German statistics include Gutta-percha, Balata, old rubber, and substitutes. French, Austrian, and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

*General Commerce. †Special Commerce.